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Soggetti	Mathematics - Data processing Mathematics Engineering mathematics Engineering - Data processing Computer science - Mathematics Social sciences Computational Science and Engineering Applications of Mathematics Mathematical and Computational Engineering Applications Mathematical Applications in Computer Science Mathematics in the Humanities and Social Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Exact solutions and conservation laws of the JosephEgri equation with power law nonlinearity (A.R. Adem, C.M. Khalique) -- MLa Deconvolution model in a bounded domain with a vertical regularization (H. Ali) -- Solving the Linear Transportation Problem by Modified Vogel Method (D. Almaatani, S.G. Diagne, Y. Gningue, P.M. Takouda) -- InputtoState Stability of LargeScale Stochastic Impulsive Systems with Time Delay and Application to Control Systems (M.S. Alwan, X.Z. Liu, W -- C. Xie) -- Replicator Dynamics of Axelrod's Norms Games (M. Andrews, E. Thommes, M. Cojocaru) -- Computing least squares condition numbers on hybrid multicore/GPU systems (M. Baboulin, J. Dongarra, R. Lacroix) -- Coupled SpinTorque Nano

Oscillators: Stability of Synchronization (K. Beauvais, A. Palacios, R. Shaffer, J. Turtle, V. In, P. Longhini) -- Nonlinear Robust Control and Regulation problems for Biomedical Dynamical Systems (A. Belmiloudi) -- Model of Heat and Water Transport in Frozen Porous Media and Fractured Rock Masses (M. Benes, L. Krupicka, R. Stefan) -- Setvalued Nonlinear Fredholm Integral Equations: Direct and Inverse Problem (M.I. Berenguer, H. Kunze, D. La Torre, M. Ruiz Galan) -- Stabilizing role of predators in niche construction modeling (F.S. Berezovskaya, G.P. Karev) -- Stripsaturationyield model for a piezoelectric plate a study on influence of change in poling direction (R.R. Bhargava, K. Jangid) -- Stripsaturationinduction model modell solution for piezoelectro magnetic strip (R.R. Bhargava, P.R. Verma) -- AdaptiveMatrix Transpose Algorithms for Distributed Multicore Processors (J.C. Bowman, M. Roberts) -- Accounting for Temperature when Modeling Population Health Risk Due to Air Pollution (W.S. Burr, H.H. Shin) -- Discrete Prolate Spheroidal Sequences as Filters in Generalized Additive Models (W.S. Burr, H.H. Shin) -- Time Series Analysis and Calibration to Option Data: A Study of Various Asset Pricing Models (G. Campolieti, R.N. Makarov, Arash Soleimani) -- An application of the double Skorokhod formula (C. Canepa, T.A. Pirvu) -- Multitaper Smoothed Minimum Statistics Noise Power Estimation (R. Castellanos, N. Erdol, H. Zhuang) -- Design Considerations for Thermal Management of Electronics Enclosures (R. Cocks, D. Clendenen, L. Chretien) -- A CFD Optimization of Airflow Efficiency for an Electric Motor Driven Centrifugal Fan System for Residential HVAC Applications (R. Cocks, J. Westhoff) -- Adoption of new products with global and local social influence in a 2d characteristics space (M.G. Cojocaru, C. Hogg, C. Kuusela, E.W. Thommes) -- On the group analysis of a modified Novikov equation (P. Leal da Silva, I. Leite Freire) -- Implication of stochastic resonance on neurological disease quantification (T.K. Das, N. Rajakumar, M. Jog) -- Impact of excess mortality on the dynamics of diseases spread by ectoparasites (A. Denes, G. Rost) -- Temperature Induced Cubicto Tetragonal Transformations in Shape Memory Alloys Using a Phase Field Model (R. Dhote, H. Gomez, R. Menik, J. Zu) -- A Study of Brain Biomechanics using Hamilton's Principle: Application to Hydrocephalus (C.S. Drapaca, J.A. Kauffman) -- A Mathematical Model For Treatment Selection Literature (G. Duncan, W.W. Koczkodaj) -- New Exceptional Orthogonal Polynomials and Nonlinear algebras associated to the Quantum system (D. Dutta) -- Avoiding the coordinate singularity problem in the numerical solution of the Dirac equation in cylindrical coordinates (F. FillionGourdeau, E. Lorin, A.D. Bandrauk) -- Symmetry reductions and exact solutions of a generalized Fisher equation (M.L. Gandarias , M.Rosa, M.S. Bruzon) -- Numerical simulation of potential Maxwells equations in harmonic regime (M.T. Gonzalez Montesinos, F. Ortegon Gallego) -- Supply Chain Flexibility Metrics Evaluation (M.E. Genevois, U. Gure, K. Ocakoglu) -- Estimation of Absolute and Relative Abundance (J. Horrocks, M. Rueffer, D. Gillis, D. Hamilton, S. Wong) -- Design, Fabrication and Testing of Hybrid Energy Harvesting Units (M. Ibrahim, A. Salehian) -- Markov Chain Monte Carlo Analysis of Trophic Cascade in Yellowstone after Reintroduction of Wolves (D. Johnson, D.J. Klinke, Q. Wang, M. Condon, Z. Wang) -- Discovering Forward Invariant Sets for Nonlinear Dynamical Systems (J. Kapinski, J. Deshmukh) -- Investigation of Calcium Chloride Aqueous Solutions/Hexane Interfaces: A Molecular Dynamics Study (N. Khiabani, Bahramian, Soltani, Ejtehadi, Pourafshary, Sarikhani, Chen) -- Random Shape Monte Carlo Study of the Area Estimation Improvement by Pairwise Comparisons (W.W. Koczkodaj, A. Almowanes, T. Kakishvili, G. Duncan) -- Controllability of Second Order Impulsive Differential Systems in

Banach spaces (M. Li, J. Tian) -- SIAC Filtering for Nonlinear Hyperbolic Equations (X. Li, J.K. Ryan) -- Structural analysis and dummy derivatives: some relations (R. McKenzie, J. Pryce) -- On the new exact solutions of the KleinGordonZakharov equations (I. E. Mhlanga, C.M. Khalique) -- Collision effects of solitary waves for the Gardner equation (A.S. Mia) -- Conservation Laws for a generalized coupled Boussinesq system of KdVKdV type (T.E. Mogorosi, B. Muatjetjeja, C.M. Khalique) -- Exact solutions of a coupled Boussinesq equation (D.M. Mothibi, C. M. Khalique) -- Recent Advances in Error ControlBspline Gaussian Collocation Software for PDEs (P. Muir, J. Pew) -- Downscaling of regional climate scenarios within agricultural areas across Canada with a multivariate, multisite model (N.K. Newlands, W. Lu, T.A. Porcelli) -- Iterative Techniques for Nonlinear Periodic Boundary Value Problems via Initial Value Problems (S.G. Pandit, D.H. DeZern) -- Fast and stable algorithms for Discrete Sine Transformations having orthogonal factors (S.M. Perera, V. Olshevsky) -- Interactive computational search strategy of periodic solutions in essentially nonlinear dynamics (L.F. Petrov) -- Explosive behavior in the Black, Derman, Toy model (D. Pirjol) -- Exploiting block triangular form for solving DAEs: reducing the number of initial values (J. Pryce, N. Nedialkov, G. Tan, R. McKenzie) -- Analysis and Visualization of a Many Objective Optimization Landscape Design Problem (L.A. RiveraZamarripa, S.A. Roberts, N. CruzCortes) -- Evolutionary Multiobjective Optimization Design for Periurban Greenlands Systems: metric implementations (S. A. Roberts, N. Cruz Cortes, G.B. Hall) -- Effect of Boundary Absorption on Dispersion of a Solute in Pulsatile Casson Fluid Flow (B.T. Sebastian, P. Nagarani) -- Stability Analysis of a HumanPhlebotomus PapatasiiRodent Epidemic Model (S. Selmane) -- Computational Thinking and Simulation In Teaching Science and Mathematics (H. Shodiev) -- Mathematical and Computational Modeling of Noise Characteristics of Channel Amplifiers (A. Shymanska) -- Parameter Range Reduction in ODE Models in the Presence of Partial Data Sets (A. Skelton, A.R. Willms) -- Stability of Openloop Switched Systems with Impulses (P. Stechlinski, X. Liu).- Mathematicsinindustry study group projects from Australia and New Zealand in the past decade (W.L. Sweatman) -- Symmetric Four-body Problems (W.L. Sweatman) -- A Simple Method for Quasilinearity Analysis of DAEs (G. Tan, N.S. Nedialkov, J.D. Pryce) -- Nondeterministic fuzzy operators (F. Tchier) -- The Ideal Free Distribution and Evolutionary Stability in Habitat Selection Games with Linear Fitness and Allee Effect (T. Tran, R. Cressman) -- An Input Output Analysis Approach in Waste of Electrical and Electronic Equipments (Z. Ulukan, E. Demircioglu, M.E. Genevois) -- A free boundary approach to solve the equilibrium equations of a membrane (G. Vigliatoro, A. Gonzalez, J. Murcia) -- Approximations to Intractable Spatial Econometric Models and Their Solutions Through Global Optimization (R. WachowiakSmolikova, M.P. Wachowiak, J. Zimmerling) -- Application of Advanced Diagonalization Methods to Quantum Spin Systems (J.Y. Wang, R. Meyer) -- The Effects of Body Fluid on Cheyne Stokes Respiration (M. Wilcox, A.R. Willms) -- Solving a Large Scale Thermal Radiation Problem Using an Interoperable Executive Library Framework on Petascale Supercomputers (K. Wong, E.D. Azevedo, Z. Hu, A. Kail, S. Su) -- Optimal Transport and Placental Function (Q. Xia, C. Salafia, S. Morgan) -- Localized BandLimited Representation and Robust Interpolative Image Manipulation (H. Xiao, M.C. Gonzalez, N. Fugate) -- Monte Carlo Measure to Improve Fairness in Equity Analyst Evaluation (J.R. Yaros, T. Imitielski) -- Wake Topology for Steady Flow past an Inclined Elliptic Cylinder (P.J.S. Young) -- Leading Unstable Linear Systems to Chaos by Chaos Entanglement (H. Zhang, X. Liu, X. Li)

-- Impulsive Control and Synchronization of Spatiotemporal Chaos in the GrayScott Model (K. Zhang, X. Liu, W -- C.Xie).

Sommario/riassunto

The Applied Mathematics, Modelling, and Computational Science (AMMCS) conference aims to promote interdisciplinary research and collaboration. The contributions in this volume cover the latest research in mathematical and computational sciences, modeling, and simulation as well as their applications in natural and social sciences, engineering and technology, industry, and finance. The 2013 conference, the second in a series of AMMCS meetings, was held August 26–30 and organized in cooperation with AIMS and SIAM, with support from the Fields Institute in Toronto, and Wilfrid Laurier University. There were many young scientists at AMMCS-2013, both as presenters and as organizers. This proceedings contains refereed papers contributed by the participants of the AMMCS-2013 after the conference. This volume is suitable for researchers and graduate students, mathematicians and engineers, industrialists, and anyone who would like to delve into the interdisciplinary research of applied and computational mathematics and its areas of applications.