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Soggetti	Numerical analysis Algorithms Computer-aided engineering Mathematics—Data processing Mathematical physics Numerical Analysis Computer-Aided Engineering (CAD, CAE) and Design Computational Science and Engineering Theoretical, Mathematical and Computational Physics
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Note generali	Includes index.
Nota di contenuto	A Note on Local Refinement for Direction Splitting Methods -- On Positivity Preservation in Some Finite Element Methods for the Heat Equation -- Optimized Particle Regeneration Scheme for the Wigner Monte Carlo Method -- Sensitivity Analysis of Design Parameters for Silicon Diodes -- Balancing of Systematic and Stochastic Errors in Monte Carlo Algorithms for Integral Equations -- Slot Machines RTP Optimization with Genetic Algorithms -- Hierarchical Topology in Parallel Differential Evolution -- On Meme Self-Adaptation in Spatially-Structured Multimemetic Algorithms -- An Ant Algorithm for the Partition Graph Coloring Problem -- Multi-exchange Neighborhoods for the Capacitated Ring Tree Problem -- Hebbian Versus Gradient Training of ESN Actors in Closed-Loop ACD -- Free Search in Multidimensional Space II -- A Semi-numerical Approach to Radiation

Boundary Conditions -- Spectral Analysis of Geometric Multigrid Methods for Isogeometric Analysis -- Numerical Homogenization of Epoxy-Clay Composite Materials -- Isogeometric Analysis for Nonlinear Dynamics of Timoshenko Beams -- Deterministic Solution of the Discrete Wigner Equation -- Explicit-Implicit Splitting Schemes for Parabolic Equations and Systems -- Solving Two-Point Boundary Value Problems for Integro-Differential Equations Using the Simple Shooting-Projection Method -- HPC Simulations of the Fine Particulate Matter Climate of Bulgaria -- Tall RC Buildings Environmentally Degradated and Strengthened by Cables Under Multiple Earthquakes: A Numerical Approach -- Multi-scale Computational Framework for Evaluating of the Performance of Molecular Based Flash Cells -- Parameter Identification of a Rate Dependent Constitutive Model for Rock Salt -- Constitutive Parameter Adjustment for Mechanized Tunneling with Reference to Sub-system Effects -- Modeling of Textiles as Nets of One-Dimensional Hyperelastic Strings with Friction Controlled by Capstan Equation -- Numerical Simulation of Drop Coalescence in the Presence of Inter-Phase Mass Transfer -- Wavelet Compression of Spline Coefficients -- Target Localization by UWB Signals -- Performance of a Wavelet Shrinking Method -- Two-Grid Decoupled Method for a Black-Scholes Increased Market Volatility Model -- The Effect of a Postprocessing Procedure to Upper Bounds of the Eigenvalues -- On a Type of Nonconforming Morley Rectangular Finite Element -- A Numerical Study of the Upper Bound of the Throughput of a Crossbar Switch Utilizing MiMa-Algorithm -- Extremal Scattered Data Interpolation in R3 Using Triangular Bézier Surfaces.

Sommario/riassunto

This book constitutes the thoroughly refereed post-conference proceedings of the 8th International Conference on Numerical Methods and Applications, NMA 2014, held in Borovets, Bulgaria, in August 2014. The 34 revised full papers presented were carefully reviewed and selected from 56 submissions for inclusion in this book. The papers are organized in the following topical sections: Monte Carlo and quasi-Monte Carlo methods; metaheuristics for optimization problems; advanced numerical methods for scientific computing; advanced numerical techniques for PDEs and applications; solving large engineering and scientific problems with advanced mathematical models; numerical simulations and back analysis in civil and mechanical engineering.