

1. Record Nr.	UNISA996198517703316
Titolo	Finite Difference Methods, Theory and Applications [[electronic resource]] : 6th International Conference, FDM 2014, Lozenetz, Bulgaria, June 18-23, 2014, Revised Selected Papers // edited by Ivan Dimov, István Faragó, Lubin Vulkov
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-20239-1
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (XI, 434 p. 105 illus.)
Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 9045
Disciplina	005.1
Soggetti	Algorithms Computer programming Computer science Computer networks Software engineering Computer science—Mathematics Discrete mathematics Programming Techniques Theory of Computation Computer Communication Networks Software Engineering Discrete Mathematics in Computer Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Simulation of Flow in Fractured Poroelastic Media: a Comparison of Different Discretization Approaches -- A Transparent Boundary Condition for an Elastic Bottom in Underwater Acoustics -- Well-Posedness in H^s older Spaces of Elliptic Differential and Difference Equations -- Operator Semigroups for Convergence Analysis -- The Power of Trefftz Approximations: Finite Difference, Boundary Difference and Discontinuous Galerkin Methods; Nonreflecting Conditions and Non-Asymptotic Homogenization -- On Extension of Asymptotic

Comparison Principle for Time Periodic Reaction-Diffusion-Advection Systems with Boundary and Internal Layers -- The Finite Difference Method for Boundary Value Problem with Singularity -- Superconvergence of Some Linear and Quadratic Functionals for Higher-order Finite Elements -- Time Step for Numerically Solving Parabolic Problems -- Recent Advances in Numerical Solution of HJB Equations Arising in Option Pricing -- Applications of Numerical Methods for Stochastic Controlled Switching Diffusions with A Hidden Markov Chain: Case Studies on Distributed Power Management and Communication Resource Allocation -- Error Estimates of the Crank-Nicolson-Polylinear FEM with the discrete TBC for the Generalized Schrödinger Equation in an Unbounded Parallelepiped -- Difference Schemes for Delay Parabolic Equations with Periodic Boundary Conditions -- Some Results of FEM Schemes Analysis by Finite Difference Method -- Application of Finite Difference TVD Methods in Hypersonic Aerodynamics -- Finite Difference Equations for Neutron Flux and Importance Distribution in 3D Heterogeneous Reactor -- Matrix-free Iterative Processes for Implementation of Implicit Runge-Kutta Methods -- Simulation of Technogenic and Climatic Influences in Permafrost -- Iterative Implicit Methods for Solving Nonlinear Dynamical Systems: Application of the Levitron -- Modeling Textile Fabric used in Pest Control with a 3 Scale Domain Decomposition Method -- The Theory and Applications of the SMIF Method for Correct Mathematical Modeling of the Incompressible Fluid Flows -- Determination of the Time-dependent Thermal Conductivity in the Heat Equation with Spacewise Dependent Heat Capacity -- Inverse Problems of Simultaneous Determination of the Time-dependent Right-hand Side Term and the Coefficient in a Parabolic Equation -- Effectiveness of the parallel implementation of the FEM for the problem of the surface waves propagation -- Splitting Scheme for Poroelasticity and Thermoelasticity Problems.

Sommario/riassunto

This book constitutes the thoroughly refereed post-conference proceedings of the 6th International Conference on Finite Difference Methods, FDM 2014, held in Lozenetz, Bulgaria, in June 2014. The 36 revised full papers were carefully reviewed and selected from 62 submissions. These papers together with 12 invited papers cover topics such as finite difference and combined finite difference methods as well as finite element methods and their various applications in physics, chemistry, biology and finance.
