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Nota di contenuto	Dimensionality Reduction with Proper Symplectic Decomposition for Learning Hamiltonian Dynamics -- Aspects of Optimization in Domestic Drinking Water Purification Systems -- Parallel Cyclic Reduction of Bordered Almost Block Diagonal Matrices -- A Direct/Indirect Approach to Optimal Control Problems -- Metaplectic Gabor Frames of Wigner-Decomposable Distributions -- Identifying Dengue Hotspots in Baguio City, Philippines through Spatiotemporal Analysis -- Discontinuous Galerkin Schemes for Master Equations Modeling Open Quantum Systems -- The Scaling Behavior of High-Order Structure Functions for

a Turbulent Jet Induced by a Rotating Propeller -- Analysis of Computational Fluid Dynamics Approaches for the Development of Microfluidic Devices -- Extragradient Method For Monotone Variational Inequality in CAT(0) Spaces -- A Symbolic-Numerical Approach to Index Reduction and Solution of Differential-Algebraic Equations -- A MATLAB Code for Handling Efficiently Discontinuous BVPs -- Optimal Transport Flow Distribution and Construction of Wardrop Optimal Networks -- Optimizing the Reuse of Building Demolition Materials for Coastal Dunes Reestablishment -- A Simple Mathematical Solution to an Invariance Problem in Water Networks -- Scalability of Saharan Dust Outbreak Modelling with the Advanced Weather Research and Forecasting Model Coupled with Chemistry (WRF-Chem) -- Choosing Kernel Shape Parameters in Partition of Unity Methods by Univariate Global Optimization Techniques -- A Bayesian Approach for Simultaneously Radial Kernel Parameter Tuning in the Partition of Unity Method -- Application of Deep Learning for Wildfire Risk Management: Preliminary Results -- Node-Binded Communities for Interpolation on Graphs -- A Fast Algorithm for Numerical Differentiation from Scattered Data -- Preconditioning Strategies for RBF Interpolation -- An Alternative Nonlinear Diffusion Algorithm for Image Denoising and Deblurring -- Some Numerical Approaches for Bifurcation of Nonlinear Dynamic Systems -- The Effects of Different Mesh Sizes on a Cellular Automata-Based Hydrological Model -- Computation of the Confluent Hypergeometric Function  $M(a,b,x)$  -- Multi-Objective Support Vector Machine Classification Algorithm for Estimation of the Potential Atmospheric Water Harvesting -- IoT and Artificial Intelligence Integration for a Stormwater Monitoring and Management System -- Optimization Method Development for Water Management of Green Roof Systems -- Weighted Finite Element Method and Body of Optimal Parameters for One Problem of the Fracture Mechanics -- A Shallow Water Model: Analytical and Numerical Study for Simulating the Coastline Evolution -- On the Division in the Computation of Binary BBP-Type Formulas for Mathematical Constants -- Numerical Analysis of Sedimentation Tanks Efficiency Using CFD Simulation -- A Probabilistic Note on the WY Representation of Householder QR -- Applying Machine Learning to Improve Weather Forecasting in a Mediterranean Area: Preliminary Experiments.

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#### Sommario/riassunto

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