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Nota di contenuto	Supercomputer Simulation: Application of HPC for Simulation of Sealant Influence on the Aircraft Assembly Process -- Block Algebraic Multigrid Method for Saddle-Point Problems of Various Physics -- Computational Efficiency of Iterative Methods for Solving Inverse Problems of Ultrasound Tomography -- Computer Memory Requirements for Matrix-Forming Approach to Global Stability Analysis of Fluid Flows -- CubicEoS.jl: Extensible, Open-Source Isothermal Phase Equilibrium Calculations for Fluids -- Efficiency and Accuracy of High-performance Calculations of the Electrostatic Energy of Thin Films Atomistic Clusters

-- Field-Split Iterative Solver vs Direct One for Quasi-Static Biot Equation -- GPU-Accelerated Matrix Exponent for Solving 1D Time-Dependent Schrodinger Equation -- How to Make Lanczos-Montgomery Fast on Modern Supercomputers? -- Multi-Node GPU-Enabled Pseudo-Spectral Solver for Turbulence Problems -- Multicriteria Optimization of Chemical Reactions Using Interval Analysis. Parallel Scheme for Implementing the Computational Process -- Parallel Numerical Implementation 3D Wave Hydrodynamics and SWAN Models -- Parallel Numerical Simulation of Sonic Log for 3D Heterogeneous TTI Media -- Quantum-Chemical Study of Some Tris (pyrrolo)benzenes and Tris(pyrrolo)-1,3,5-triazines -- Reduced Precision Computations in the SL-AV Global Atmosphere Model -- Scalability of the INM RAS Earth System Model -- Simulation of Free-Surface Fluid Dynamics: Parallelization for GPUs -- Software Package USPARS for Large Sparse Systems of Linear Equations -- Supercomputer Search for Coagulation Factor XIIa Inhibitors in the Chinese National Compound Library -- Supercomputer Technologies for Ultrasound Nondestructive Imaging of Low-contrast Defects in Solids -- The Effect of Data Structuring on the Parallel Efficiency of the HydroBox3D Relativistic Code -- The Efficiency Optimization Study of a Geophysical Code on Manycore Computing Architectures -- Using Parallel Technologies to Calculate Fluid Dynamic Processes in a Fractured-Porous Reservoir Taking into Account Non-Isothermality.

Sommario/riassunto

The two-volume set LNCS 14388 and 14389 constitutes the refereed proceedings of the 9th Russian Supercomputing Days International Conference (RuSCDays 2023) held in Moscow, Russia, during September 25-26, 2023. The 44 full papers and 1 short paper presented in these proceedings were carefully reviewed and selected from 104 submissions. The papers have been organized in the following topical sections: supercomputer simulation; distributed computing; and HPC, BigData, AI: algorithms, technologies, evaluation.