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Tridiagonal Form""""Fast Approximate Solution of the Non-Symmetric Generalized Eigenvalue Problem on Multicore Architectures""; ""Locality Optimization on a NUMA Architecture for Hybrid LU Factorization""; ""Variable Block Algebraic Recursive Multilevel Solver (VBARMS) for Sparse Linear Systems""; ""A Proposal of a Single-Synchronized Solver Suited to Large Scale Linear Systems on Parallel Computers with Distributed Memory""; ""Approximate Inverse Preconditioners for Krylov Methods on Heterogeneous Parallel Computers""
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 ""ForestClaw: Hybrid Forest-of-Octrees AMR for Hyperbolic Conservation Laws""""A Space-Time Parallel Solver for the Three-Dimensional Heat Equation""; ""An Efficient Pipelined Implementation of Space-Time Parallel Applications""; ""GPU Computing and Applications""; ""Efficient GPU-Based Optimization of Volume Meshes""; ""Fast Uniform Grid Construction on GPGPUs Using Atomic Operations""; ""Porting Large HPC Applications to GPU Clusters: The Codes GENE and VERTEX""; ""Numerical Simulation of the Low Compressible Viscous Gas Flows on GPU-Based Hybrid Supercomputers""
 ""Simulation of Multiphase Flows in the Subsurface on GPU-Based Supercomputers""

Sommario/riassunto

Parallel computing has been the enabling technology of high-end machines for many years. Now, it has finally become the ubiquitous key to the efficient use of any kind of multi-processor computer architecture, from smart phones, tablets, embedded systems and cloud computing up to exascale computers. This book presents the proceedings of ParCo2013 - the latest edition of the biennial International Conference on Parallel Computing - held from 10 to 13 September 2013, in Garching, Germany. The conference focused on several key parallel computing areas. Themes included parallel programming models