Preface

Invited Papers

Coordination models and languages for parallel programming

Explosive advances in computational chemistry—Applications of parallel computing in biomedical and material science research

The challenge of massively parallel computing

Applications

A communication library to couple simulation codes on distributed systems for multi-physics computations

Cellular automata model for parallel simulation of contamination processes by oil in porous soils

Hiperplast: An HPCN simulator for reinforced thermoplastics injection processes

Parallel non-linear electromagnetic modeling with FEM

Hipercir: A scalable PC-based parallel system for medical imaging

Bayesian image restoration: Parallel implementation on a SGI origin multiprocessor

A framework for parallel multithreaded implementation of domain decomposition methods

Performance evaluation of a FD-TD parallel code for microwave ovens design

MPEG1 and MPEG2 compression based on a workstation cluster

Parallel implementation of a 3D BJT device simulator

Implementation and performance evaluation for a computation-intensive climate simulation application

Modelling head biomechanics on parallel platforms

Hiperwater: A high performance computing demonstrator for water network analysis

Parallel ground water flow modelling

Parallel computational magneto-fluid dynamics

Parallel processing of natural language parsers

Three-dimensional direct numerical simulation of flow problems with electromagnetic control on parallel systems

Using PVM on computer network to perform fast pre-processing of large medical data set

Fine grain parallelization of multi-body system equations of motion

Vehicle routing with time windows and stochastic demand

Parallel cloud modeling

Hybrid scheduling for realistic image synthesis

A parallel architecture for interactive FEM computations in a surgery simulator

Algorithms

Hiperbuild: An efficient parallel software for 3D structural analysis of buildings

Parallelization of the umbrella Monte Carlo algorithm

A two-dimensional parallel quadtree finite element mesh generator

Dynamic multi-partitioning for parallel finite element applications

Factorized approximate inverse preconditioning of a parallel sparse eigensolver
A parallel finite element surface fitting algorithm for data mining p. 275
External selective orthogonalization for the Lanczos algorithm in distributed memory environments p. 283
Implementation of parallel one-sided block Jacobi methods for the symmetric eigenvalue problem p. 291
Communication overhead for parallel sparse Cholesky factorization on a reconfigurable network p. 299
Towards a fast parallel sparse matrix-vector multiplication p. 308
Parallel adaptive 3-D wavelet analysis for fast and efficient video coding p. 316
UG--A parallel software tool for unstructured adaptive multigrids p. 324
A framework for analyzing and designing parallel algorithms for tridiagonal systems p. 333
Left-looking strategy for the sparse modified Cholesky factorization on NUMA multiprocessors p. 342
A parallel triangle operator for noise removal in true colour images p. 350
A new scalable array processor for two-dimensional discrete Fourier transform p. 358
A generic all-pairs cluster-computing pipeline and its applications p. 366
Management of distributed dynamic data with algorithmic skeletons p. 375
Experiments in parallel evolutionary partitioning p. 383
STW: Switch Time Warp. A model for rollback reduction in optimistic PDES p. 400
System Software and Hardware Architecture p. 409
Using optimal partition strategies for skeleton allocation p. 411
SWC: A small framework for webcomputing p. 419
On the memory performance of pure and impure, strict and non-strict functional programs p. 427
Advanced visualization and data distribution steering in an HPF parallelization environment p. 435
Active I/O streams for heterogeneous high performance computing p. 443
User level storage I/O: An experimental study of two storage protocols using the VI architecture p. 451
Dynamic run time support for skeletons p. 460
Estimating IPC of a block structured instruction set architecture in an early design stage p. 468
Linux-clusters for lattice field theory p. 476
Novel highly parallel and systolic architectures using quantum dot-based hardware p. 484
A cellular environment for steering high performance scientific applications p. 493
Implementing a functional approach for parallel resolution of irregular problems on distributed multiprocessors p. 501
Distributed high-speed computing of multimedia data p. 510
Increasing the efficiency of value prediction in future processors by predicting less p. 518
Expressiveness versus optimizability in coordinating parallelism p. 526
Dynamic load balancing with self-organizing maps p. 534
A framework for nesting algorithmic skeletons p. 542
Register allocation in hyper-block for EPIC processors p. 550
Study of data locality for iterative methods p. 558
SUMA: A scientific metacomputer p. 566
COMET: A communication-efficient load balancing strategy for multi-agent cluster computing p. 574
Performance comparison of four software architectures for distributed computations p. 582
Distributed high performance computing with OpusJava p. 590
Malleable tasks: An efficient model for solving actual parallel applications p. 598
File mapping in shared virtual memory using a parallel file system p. 606
Scalable simultaneous multithreading (ScSMT) p. 615
Achieving multiprogramming scalability of parallel programs on Intel SMP platforms: Nanotreading in the Linux kernel p. 623
Performances of hole based, chaotic and minimal fully-adaptive routing algorithms under constant resource constraint p. 631
A tool for SPMD application development with support for load balancing p. 639
Effective performance problem detection of MPI programs on MPP systems: From the global view to the details p. 647
Execution replay for an MPI-based multi-threaded runtime system p. 656
A practical methodology for defining histograms for predictions and scheduling p. 664
Workload characteristics and effective scheduling in large parallel systems p. 672
A message oriented reliable multicast protocol for J.I.V.E. p. 681
Evaluation of file access patterns using realistic I/O workloads for a cluster environment p. 689
Parallel program model and environment p. 697
The asynchronous object-oriented programming model for parallel systems p. 705
Compiling for fast state capture of mobile agents p. 714
A scalable multithreaded compiler front-end p. 722
A 3D-Java tool to visualize loop-carried dependences p. 730
Bubble-driven optimization of instruction level parallel programs p. 738
Industrial Perspective p. 747
COMPAQ and QSW scalable scientific computing p. 749
Extended Abstracts p. 763
Parallel inexact Newton and interior point methods p. 765
Parallel SAR processing on Linux PCs enables operational radar remote sensing p. 766
Author Index p. 767

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