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| Nota di contenuto       | Scalable cache coherence for shared memory multiprocessors -- New program restructuring technology -- Data parallel program design -- A powerful high-level debugger for parallel programs -- The PCP/PFP programming models on the BBN TC2000 -- Knowledge-based parallelization for distributed memory systems -- Parallelization for multiprocessors with memory hierarchies -- Traceview: A trace visualization tool -- Parallel and distributed programming with ParMod-C -- Code generation for a data parallel SIMD language -- Data structures for optimizing programs with explicit parallelism -- Modula-S -- Modula-2* and its compilation -- ADAPTING Fortran 90 array programs for distributed memory architectures -- Evolution of |

massive parallel compute servers from a research object to a production tool -- Processor scheduling in multiprocessor systems -- Multipacket routing on rings -- Massively parallel processing in high energy physics the CERN-MPPC project -- A heuristic algorithm for dynamic task allocation in highly parallel systems -- Analysis of parallel Lisp programs based on a trace mechanism -- A distributed implementation of flat concurrent prolog on multi-transputer environments -- Negation in conclog -- Symbolic computation and parallel software -- On the parallelization of characteristic-set-based algorithms -- Multiplication as parallel as possible -- On the existence of an efficient parallel algorithm for a graph theoretic problem -- On the multi-threaded computation of modular polynomial greatest common divisors -- A Buchberger Algorithm for distributed memory multi-processors -- Computational biology on massively parallel machines -- Time-parallel multigrid in an extrapolation method for time-dependent partial differential equations -- Parallelization of simulation tasks: Methodology — Implementation — Application -- Parallel algorithms for stress analysis on shared-memory multiprocessors -- Elastic load-balancing for image processing algorithms.

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### Sommario/riassunto

The Austrian Center for Parallel Computation (ACPC) is a cooperative research organization founded in 1989 to promote research and education in the field of software for parallel computer systems. The areas in which the ACPC is active include algorithms, languages, compilers, programming environments, and applications for parallel and high-performance computing systems. This volume contains the proceedings of the First International Conference of the SCPC, held in Salzburg, Austria, September 30 - October 2, 1991. Authors from 15 countries submitted 66 papers, from which 28 were selected and presented at the conference. They appear in this volume together with 8 invited papers by distinguished researchers. Based on the quality of the papers presented and the response of the participants, the ACPC has decided to organize a conference every other year. The second ACPC conference will take place in Vienna in June 1993.

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