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Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 589
Disciplina	003.3
Soggetti	Architecture, Computer Programming languages (Electronic computers) Computers Computer programming Arithmetic and logic units, Computer Computer graphics Computer System Implementation Programming Languages, Compilers, Interpreters Computation by Abstract Devices Programming Techniques Arithmetic and Logic Structures Computer Graphics
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Nota di contenuto	Distributed execution of actor programs -- An overview of the Fortran D programming system -- The interaction of the formal and the practical in parallel programming environment development: CODE -- Hierarchical concurrency in Jade -- Experience in the automatic parallelization of four Perfect-Benchmark programs -- Programming SIMPLE for parallel portability -- Compilation of Id -- An executable representation of distance and direction -- Integrating scalar optimization and parallelization -- Optimization of data/control

conditions in task graphs -- Recognizing and parallelizing bounded recurrences -- Communication-free hyperplane partitioning of nested loops -- Parallelizing loops with indirect array references or pointers -- Register allocation, renaming and their impact on fine-grain parallelism -- Data flow and dependence analysis for instruction level parallelism -- Extending conventional flow analysis to deal with array references -- Run-time management of Lisp parallelism and the Hierarchical Task Graph program representation -- A multi-grain parallelizing compilation scheme for OSCAR (optimally scheduled advanced multiprocessor) -- Balanced loop partitioning using GTS -- An iteration partition approach for cache or local memory thrashing on parallel processing -- On estimating and enhancing cache effectiveness -- Reduction of cache coherence overhead by compiler data layout and loop transformation -- Loop storage optimization for dataflow machines -- Optimal partitioning of programs for data flow machines -- A foundation for advanced compile-time analysis of linda programs -- Analyzing programs with explicit parallelism.

Sommario/riassunto

This volume contains the proceedings of the Fourth Workshop on Languages andCompilers for Parallel Computing, held in Santa Clara, California, in August1991. The purpose of the workshop, held every year since 1988, is to bring together the leading researchers on parallel programming language designand compilation techniques for parallel computers. The papers in this book cover several important topics including: (1) languages and structures to represent programs internally in the compiler, (2) techniques to analyzeand manipulate sequential loops in order to generate a parallel version, (3)techniques to detect and extract fine-grain parallelism, (4) scheduling and memory-management issues in automatically generated parallel programs, (5) parallel programming language designs, and (6) compilation of explicitly parallel programs. Together, the papers give a good overview of the research projects underway in 1991 in this field.