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Nota di contenuto	Quantifying the multi-level nature of tiling interactions -- Reuse-driven tiling for data locality -- Table-lookup approach for compiling two-level data-processor mappings in HPF -- Code generation for complex subscripts in data-parallel programs -- Automatic data decomposition for message-passing machines -- Program analysis of overlap area usage in self-similar parallel programs -- Analysis and optimization of explicity parallel programs using the parallel program graph representation -- Concurrent static single assignment form and constant propagation for explicitly parallel programs -- Identifying DEF/USE information of statements that construct and traverse dynamic

recursive data structures -- Program optimization for concurrent multithreaded architectures -- Interactive compilation and performance analysis with URSA MINOR -- The SPNT test: A new technology for run-time speculative parallelization of loops -- Lowering HPF procedure interface to a canonical representation -- PCRC-based HPF compilation -- Data parallel language extensions for exploiting locality in irregular problems -- Simplifying control flow in compiler-generated parallel code -- Reducing synchronization overhead for compiler-parallelized codes on software DSMs (extended abstract) -- An array data flow analysis based communication optimizer -- A compiler abstraction for machine independent parallel communication generation -- The aggregate function API: It's not just for PAPERS anymore -- Definition of the F?? extension to fortran 90 -- Exploiting parallelism through directives on the nano-threads programming model -- “Optimal” parallelism through integration of data and control parallelism: A case study in complete parallelization -- Java as a language for scientific parallel programming -- Experiences with loop parallelization in javar (A prototype restructuring compiler for java) -- NAMD: A case study in multilingual parallel programming -- A unified software pipeline construction scheme for modulo scheduled loops -- A systematic approach to branch speculation -- Integrating automatic data alignment and array operation synthesis to optimize data parallel programs -- A compiler for the ibm scalable shared memory project machine — extended abstract -- Automatic data layout with read-only replication and memory constraints -- Static analysis of recursive data structures.

Sommario/riassunto

This book constitutes the thoroughly refereed post-workshop proceedings of the 10th International Workshop on Languages and Compilers for Parallel Computing, LCPC'97, held in Minneapolis, Minnesota, USA in August 1997 The book presents 28 revised full papers together with four posters; all papers were carefully selected for presentation at the workshop and went through a thorough reviewing and revision phase afterwards. The papers are organized in topical sections on data locality, program analysis, automatic parallelization, HPF extensions and compilers, synchronization and communication, parallel programming models and language extensions, and instruction level parallelism.