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| | Descrizione fisica | 1 online resource (XII, 376 p.) |
| | Collana | Lecture notes in computer science ; ; 1703 |
| | Disciplina | 621.395 |
| | Soggetti | Integrated circuits - Very large scale integration - Computer-aided design<br>Integrated circuits - Verification |
| | Lingua di pubblicazione | Inglese |
| | Formato | Materiale a stampa |
| | Livello bibliografico | Monografia |
| | Note generali | Bibliographic Level Mode of Issuance: Monograph |
| | Nota di bibliografia | Includes bibliographical references and index. |
| | Nota di contenuto | Invited Talks -- Esterel and Jazz : Two Synchronous Languages for Circuit Design -- Design Process of Embedded Automotive Systems— Using Model Checking for Correct Specifications -- Proof of Microprocessors -- A Proof of Correctness of a Processor Implementing Tomasulo's Algorithm without a Reorder Buffer -- Formal Verification of Explicitly Parallel Microprocessors -- Superscalar Processor Verification Using Efficient Reductions of the Logic of Equality with Uninterpreted Functions to Propositional Logic -- Model Checking -- Model Checking TLA+ Specifications -- Efficient Decompositional Model Checking for Regular Timing Diagrams -- Vacuity Detection in Temporal Model Checking -- Formal Methods and Industrial Applications -- Using Symbolic Model Checking to Verify the Railway Stations of Hoorn-Kersenboogerd and Heerhugowaard -- Practical Application of Formal Verification Techniques on a Frame Mux/Demux Chip from Nortel Semiconductors -- Efficient Verification of Timed Automata Using Dense and Discrete Time Semantics -- Abstraction and Compositional Techniques -- From Asymmetry to Full Symmetry: New Techniques for Symmetry Reduction in Model Checking -- Automatic Error Correction of Large Circuits Using Boolean Decomposition and |

Abstraction -- Abstract BDDs: A Technique for Using Abstraction in Model Checking -- Theorem Proving Related Approaches -- Formal Synthesis at the Algorithmic Level -- Xs Are for Trajectory Evaluation, Booleans Are for Theorem Proving -- Verification of Infinite State Systems by Compositional Model Checking -- Symbolic Simulation/Symbolic Traversal -- Formal Verification of Designs with Complex Control by Symbolic Simulation -- Hints to Accelerate Symbolic Traversal -- Specification Languages and Methodologies -- Modeling and Checking Networks of Communicating Real-Time Processes -- "Have I Written Enough Properties?" - A Method of Comparison Between Specification and Implementation -- Program Slicing of Hardware Description Languages -- Posters -- Results of the Verification of a Complex Pipelined Machine Model -- Hazard—Freedom Checking in Speed—Independent Systems -- Yet Another Look at LTL Model Checking -- Verification of Finite-State-Machine Refinements Using a Symbolic Methodology -- Refinement and Property Checking in High-Level Synthesis Using Attribute Grammars -- A Systematic Incrementalization Technique and Its Application to Hardware Design -- Bisimulation and Model Checking -- Circular Compositional Reasoning about Liveness -- Symbolic Simulation of Microprocessor Models Using Type Classes in Haskell -- Exploiting Retiming in a Guided Simulation Based Validation Methodology -- Fault Models for Embedded Systems -- Validation of Object-Oriented Concurrent Designs by Model Checking.

| Sommario/riassunto | CHARME'99 is the tenth in a series of working conferences devoted to the dev- opment and use of leading-edge formal techniques and tools for the design and veri?cation of hardware and systems. Previous conferences have been held in Darmstadt (1984), Edinburgh (1985), Grenoble (1986), Glasgow (1988), Leuven (1989), Torino (1991), Arles (1993), Frankfurt (1995) and Montreal (1997). This workshop and conference series has been organized in cooperation with IFIP WG 10. 5. It is now the biannual counterpart of FMCAD, which takes place every even-numbered year in the USA. The 1999 event took place in Bad Her-nalb, a resort village located in the Black Forest close to the city of Karlsruhe. The validation of functional and timing behavior is a major bottleneck in current VLSI design systems. A predominantly academic area of study until a few years ago, formal design and veri?cation techniques are now migrating into industrial use. The aim of CHARME' 99 is to bring together researchers and users from academia and industry working in this active area of research. Two invited talks illustrate major current trends: the presentation by G´erard Berry (Ecole des Mines de Paris, Sophia-Antipolis, France) is concerned with the use of synchronous languages in circuit design, and the talk given by Peter Jansen (BMW, Munich, Germany) demonstrates an application of formal methods in an industrial environment. The program also includes 20 regular presentations and 12 short presentations/poster exhibitions that have been selected from the 48 submitted papers. |