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Titolo	Hybrid Systems III [[electronic resource]] : Verification and Control / / edited by Rajeev Alur, Thomas A. Henzinger, Eduardo D. Sontag
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Descrizione fisica	1 online resource (IX, 619 p.)
Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 1066
Disciplina	629.8/9
Soggetti	Microprocessors Computers Architecture, Computer Special purpose computers Software engineering Computer logic Processor Architectures Theory of Computation Computer System Implementation Special Purpose and Application-Based Systems Software Engineering Logics and Meanings of Programs
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	A game-theoretic approach to hybrid system design -- Verifying clocked transition systems -- Compositional and uniform modelling of hybrid systems -- Hybrid cc, hybrid automata and program verification -- Controlled switching diffusions as hybrid processes -- Hybrid systems: Chattering approximation to relaxed controls -- Verification of automated vehicle protection systems -- Extended RTL in the specification and verification of an industrial press -- Abstract verification of structured dynamical systems -- Design and evaluation tools for Automated Highway Systems -- Hybrid control in Sea Traffic Management Systems -- Verification of hybrid systems: Monotonicity in

the AHS control system -- Examples of stabilization with hybrid feedback -- General hybrid dynamical systems: Modeling, analysis, and control -- The residue of model reduction -- The tool Kronos -- Timing analysis in COSPAN -- UPPAAL — a tool suite for automatic verification of real-time systems -- Optimal design of hybrid controllers for hybrid process systems -- On-line fault monitoring of a class of hybrid systems using templates with dynamic time scaling -- Hierarchical design of a chemical concentration control system -- Switched bond graphs as front-end to formal verification of hybrid systems -- Formal specification of stability in hybrid control systems -- Requirements specifications for hybrid systems -- Validation of hybrid systems by co-simulation -- Proofs from temporal hypotheses by symbolic simulation -- On controlling timed discrete event systems -- Supervisory control of real-time systems using prioritized synchronization -- ?-Approximation of differential inclusions -- Linear phase-portrait approximations for nonlinear hybrid systems -- Deciding reachability for planar multi-polynomial systems -- Modeling hybrid dynamical systems -- Stability of hybrid systems -- Model and stability of hybrid linear system -- Interconnected automata and linear systems: A theoretical framework in discrete-time -- Modelling and verification of automated transit systems, using timed automata, invariants and simulations -- An invariant based approach to the design of hybrid control systems containing clocks -- Refinements of approximating automata for synthesis of supervisory controllers for hybrid systems -- A data intensive computing approach to path planning and mode management for hybrid systems -- Hybrid I/O automata -- A formal description of hybrid systems -- Logics vs. automata: The hybrid case -- H? gain schedule synthesis of supervisory hybrid control systems -- A new approach to robust control of hybrid systems -- A DES approach to control of hybrid dynamical systems -- Diagnostic model-checking for real-time systems -- Specification and verification of hybrid dynamic systems with Timed ?-automata -- Fischer's protocol revisited: A simple proof using modal constraints.

Sommario/riassunto

This reference book documents the scientific outcome of the DIMACS/SYCON Workshop on Verification and Control of Hybrid Systems, held at Rutgers University in New Brunswick, NJ, in October 1995. A hybrid system consists of digital devices that interact with analog environments. Computer science contributes expertise on the analog aspects of this emerging field of interdisciplinary research and design. The 48 revised full papers included were strictly refereed; they present the state of the art in this dynamic field with contributions by leading experts. Also available are the predecessor volumes published in the same series as LNCS 999 and LNCS 736.