1. Record Nr. UNISA996465950603316

Titolo	Hybrid Systems: Computation and Control [[electronic resource]] : 4th International Workshop, HSCC 2001 Rome, Italy, March 28-30, 2001 Proceedings / / edited by Maria D. Di Benedetto, Alberto L. Sangiovanni-Vincentelli
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2001
ISBN	3-540-45351-2
Edizione	[1st ed. 2001.]
Descrizione fisica	1 online resource (XIV, 516 p.)
Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 2034
Disciplina	004.19
Soggetti	Software engineering Computers Computer hardware Computer logic Special purpose computers Software Engineering/Programming and Operating Systems Theory of Computation Computer Hardware Logics and Meanings of Programs Software Engineering Special Purpose and Application-Based Systems
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 at the end of each chapters and index.
Nota di contenuto	Control as an Embedded Technology -- Optimisation of Hybrid Processes and Hybrid Controllers -- Embedded Software and Systems: Challenges and Approaches -- Hybrid Systems Applications: An Oxymoron? -- Design of Luenberger Observers for a Class of Hybrid Linear Systems -- Hybrid Modeling and Simulation of Biomolecular Networks -- Compositional Refinement for Hierarchical Hybrid Systems -- Optimal Paths in Weighted Timed Automata -- Reach Set Computations Using Real Quantifier Elimination -- On Hybrid Control of Under-Actuated Mechanical Systems -- On the Decidability of the

Reachability Problem for Planar Differential Inclusions -- The Substratum of Impulse and Hybrid Control Systems -- Path-Dependent Impulse and Hybrid Systems -- Hybrid Feedback Control for Path Tracking by a Bounded—Curbature Vehicle -- Minimum-Cost Reachability for Priced Time Automata -- A Hybrid Approach to Traction Control -- Optimal Control Using Bisimulations: Implementation -- A Generalized Approach for Analysis and Control of Discrete-Time Piecewise Affine and Hybrid Systems -- Accurate Event Detection for Simulating Hybrid Systems -- A Clustering Technique for the Identification of Piecewise Affine systems -- Lateral Inhibition through Delta-Notch Signaling: A Piecewise Affine Hybrid Model -- Supervision of Event-Driven Hybrid Systems: Modeling and Synthesis -- Control of Piecewise-Linear Hybrid Systems on Simplices and Rectangles -- Assume-Guarantee Reasoning for Hierarchical Hybrid Systems -- Hybrid Modeling of TCP Congestion Control -- Hybrid Geodesics as Optimal Solutions to the Collision-Free Motion Planning Problem -- Nonlinear Adaptive Backstepping with Estimator Resetting Using Multiple Observers -- Mode Switching Synthesis for Reachability Specifications -- Characterization of Stabilizing Switching Sequences in Switched Linear Systems Using Piecewise Linear Lyapunov Functions -- On a Novel Class of Bifurcations in Hybrid Dynamical Systems -- Global Controllability of Hybrid Systems with Controlled and Autonomous Switchings -- Modeling of Continuous-Discrete Processes -- Hybrid I/O Automata Revisited -- Validating a Hamilton-Jacobi Approximation to Hybrid System Reachable Sets -- Robust Controller Synthesis for Hybrid Systems Using Modal Logic -- Diagnosis of Physical Systems with Hybrid Models Using Parametrized Causality -- Addressing Multiobjective Control: Safety and Performance through Constrained Optimization -- Representation of Quantised Systems by the Frobenius-Perron Operator -- Semi-de1cidable Synthesis for Triangular Hybrid Systems -- Hybrid Abstractions that Preserve Timed Languages.

Sommario/riassunto

This volume contains the proceedings of the Fourth Workshop on Hybrid - stems: Computation and Control (HSCC 2001) held in Rome, Italy on March 28-30, 2001. The Workshop on Hybrid Systems attracts researchers from in- stry and academia interested in modeling, analysis, synthesis, and implemen- tion of dynamic and reactive systems involving both discrete (integer, logical, symbolic) and continuous behaviors. It is a forum for the discussion of the - test developments in all aspects of hybrid systems, including formal models and computational representations, algorithms and heuristics, computational tools, and new challenging applications. The Fourth HSCC International Workshop continues the series of workshops held in Grenoble, France (HART'97), Berkeley, California, USA (HSCC'98), N- megen, The Netherlands (HSCC'99), and Pittsburgh, Pennsylvania, USA (HSCC 2000). Proceedings of these workshops have been published in the Lecture Notes in Computer Science (LNCS) series by Springer-Verlag. In line with the beautiful work that led to the design of the palace in which the workshop was held, Palazzo Lancellotti in Rome, resulting from the col- boration of many artists and architects of di erent backgrounds, the challenge faced by the hybrid system community is to harmonize and extract the best from two main research areas: computer science and control theory.