

1. Record Nr.	UNINA9910143468903321
Titolo	Hybrid systems : computation and control : Second International Workshop, HSCC '99, Berg en Dal, The Netherlands, March 29-31, 1999 : proceedings / / Frits W. Vaandrager, Jan H. van Schuppen (editors)
Pubbl/distr/stampa	Berlin : , : Springer, , [1999] Â©1999
ISBN	3-540-48983-5
Edizione	[1st ed. 1999.]
Descrizione fisica	1 online resource (CCXCII, 282 p.)
Collana	Lecture notes in computer science ; ; 1569
Disciplina	004.19
Soggetti	Hybrid computers
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	SACRES: A Step Ahead in the Development of Critical Avionics Applications -- Approximating Hybrid System Dynamics for Analysis and Control -- High-Level Modeling and Analysis of an Air-Traffic Management System -- Geometric Categories, O-Minimal Structures and Control -- Polyhedral Flows in Hybrid Automata -- As Soon as Possible: Time Optimal Control for Timed Automata -- Verification of Hybrid Systems via Mathematical Programming -- Orthogonal Polyhedra: Representation and Computation -- A Geometric Approach to Bisimulation and Verification of Hybrid Systems -- Verification of Polyhedral-Invariant Hybrid Automata Using Polygonal Flow Pipe Approximations -- Path Planning and Flight Controller Scheduling for an Autonomous Helicopter -- Reachability Analysis Using Polygonal Projections -- Scale-Independent Hysteresis Switching -- Well-Posedness of a Class of Piecewise Linear Systems with No Jumps -- A New Class of Decidable Hybrid Systems -- Synthesis of Control Software in a Layered Architecture from Hybrid Automata -- An Overview of Hybrid Simulation Phenomena and Their Support by Simulation Packages -- Building Hybrid Observers for Complex Dynamic Systems Using Model Abstractions -- Integration of Analog and Discrete Synchronous Design -- Reachability Analysis of a Class of Switched Continuous Systems by Integrating Rectangular Approximation and Rectangular Analysis -- Refinement and

Sommario/riassunto

This volume contains the proceedings of the Second International Workshop on Hybrid Systems: Computation and Control (HSCC'99) to be held March 29- 31, 1999, in the village Berg en Dal near Nijmegen, The Netherlands. The first workshop of this series was held in April 1998 at the University of California at Berkeley. The series follows meetings that were initiated by Anil Nerode at Cornell University. The proceedings of those meetings were published in the Springer-Verlag LNCS Series, Volumes 736, 999, 1066, 1201, and 1273. The proceedings of the first workshop of the new series was published in LNCS 1386. The focus of the workshop is on modeling, control, synthesis, design, and verification of hybrid systems. A hybrid system is a theoretical model for a computer controlled engineering system, with a dynamics that evolves both in a discrete state set and in a family of continuous state spaces. Research is motivated by, for example, control of electro-mechanical systems (robots), air traffic control, control of automated freeways, and chemical process control. The emerging research area of hybrid systems overlaps both with computer science and with control theory. The interaction between researchers from these fields is expected to be fruitful for the development of the area of hybrid systems.
