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Soggetti	Computer networks Computer systems Software engineering Computers, Special purpose Microprocessors Computer architecture Computer science Computer Communication Networks Computer System Implementation Software Engineering Special Purpose and Application-Based Systems Processor Architectures Computer Science Logic and Foundations of Programming
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Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	International conference proceedings.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Regular Papers -- Applications of MetiTarski in the Verification of Control and Hybrid Systems -- Three-Dimensional Knead Bipedal Walking: A Hybrid Geometric Approach -- Safe and Secure Networked Control Systems under Denial-of-Service Attacks -- Actors without Directors: A Kahnian View of Heterogeneous Systems -- Simultaneous Optimal Control and Discrete Stochastic Sensor Selection -- Hybrid Modelling, Power Management and Stabilization of Cognitive Radio

Networks -- Automatic Synthesis of Robust and Optimal Controllers -- An Industrial Case Study -- Local Identification of Piecewise Deterministic Models of Genetic Networks -- Distributed Wombling by Robotic Sensor Networks -- Epsilon-Tubes and Generalized Skorokhod Metrics for Hybrid Paths Spaces -- Stability Analysis of Networked Control Systems Using a Switched Linear Systems Approach -- Parameter Synthesis for Hybrid Systems with an Application to Simulink Models -- Convergence of Distributed WSN Algorithms: The Wake-Up Scattering Problem -- Finite Automata as Time-Inv Linear Systems -- Observability, Reachability and More -- Optimal Boundary Control of Convention-Reaction Transport Systems with Binary Control Functions -- Trajectory Based Verification Using Local Finite-Time Invariance -- Synthesis of Trajectory-Dependent Control Lyapunov Functions by a Single Linear Program -- Uniform Consensus among Self-driven Particles -- Optimization of Multi-agent Motion Programs with Applications to Robotic Marionettes -- Decompositional Construction of Lyapunov Functions for Hybrid Systems -- Existence of Periodic Orbits with Zeno Behavior in Completed Lagrangian Hybrid Systems -- Computation of Discrete Abstractions of Arbitrary Memory Span for Nonlinear Sampled Systems -- Hybrid Modeling, Identification, and Predictive Control: An Application to Hybrid Electric Vehicle Energy Management -- On Event Based State Estimation -- Discrete-State Abstractions of Nonlinear Systems Using Multi-resolution Quantizer -- Event-Triggering in Distributed Networked Systems with Data Dropouts and Delays -- Specification and Analysis of Network Resource Requirements of Control Systems -- Periodically Controlled Hybrid Systems -- Stabilization of Discrete-Time Switched Linear Systems: A Control-Lyapunov Function Approach -- Bounded and Unbounded Safety Verification Using Bisimulation Metrics -- Short Papers -- The Optimal Boundary and Regulator Design Problem for Event-Driven Controllers -- Morphisms for Non-trivial Non-linear Invariant Generation for Algebraic Hybrid Systems -- An Analysis of the Fuller Phenomenon on Transfinite Hybrid Automata -- Stochastic Optimal Tracking with Preview for Linear Discrete-Time Markovian Jump Systems (Extended Abstract) -- Reachability Analysis for Stochastic Hybrid Systems Using Multilevel Splitting -- Orbital Control for a Class of Planar Impulsive Hybrid Systems with Controllable Resets -- Distributed Tree Rearrangements for Reachability and Robust Connectivity -- The Sensitivity of Hybrid Systems Optimal Cost Functions with Respect to Switching Manifold Parameters -- STORMED Hybrid Games -- Symbolic Branching Bisimulation-Checking of Dense-Time Systems in an Environment.

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## Sommario/riassunto

This book constitutes the refereed proceedings of the 12th International Conference on Hybrid Systems: Computation and Control, HSCC 2009, held in San Francisco, CA, USA, in April 2009. The 30 revised full papers and 10 revised short papers presented were carefully reviewed and selected from numerous submissions for inclusion in the book. The papers focus on research in embedded reactive systems involving the interplay between symbolic/discrete and continuous dynamical behaviors and feature the latest developments of applications and theoretical advancements in the analysis, design, control, optimization, and implementation of hybrid systems.

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