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Altri autori (Persone)	MajumdarRupak TabuadaPaulo
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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.

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.
