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| Disciplina | 004.1/9 |
| Soggetti | Control engineering Computers Special purpose computers Microprocessors Software engineering Robotics Mechatronics Control and Systems Theory Theory of Computation Special Purpose and Application-Based Systems Processor Architectures Software Engineering Control, Robotics, Mechatronics |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
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| Nota di contenuto | Verifying liveness properties of reactive systems (a tutorial) -- The Lyapunov method (a tutorial) -- Relating high-level and low-level action descriptions in a logic of actions and change -- A new algorithm for discrete timed symbolic model checking -- State clock logic: A decidable real-time logic -- From quantity to quality -- Verifying periodic task-control systems -- A case study in timed CSP: The railroad crossing problem -- Analysis of slope-parametric hybrid automata -- Comparing timed c/e systems with timed automata |

(abstract) -- Design tools for hybrid control systems -- On-Line, reflexive constraint satisfaction for hybrid systems: First steps -- Hybrid control issues in Air Traffic Management Systems -- Multiobjective hybrid controller synthesis -- Modelling a time-dependent protocol using the Circal process algebra -- Using HyTech to verify an automotive control System -- Safety verification for automated platoon maneuvers: A case study -- Verifying hybrid systems modeled as timed automata: A case study -- Using an object-oriented methodology to bring a hybrid system from initial concept to formal definition -- A digital real-time simulator for rail-vehicle control system testing -- Hybrid flow nets for hybrid processes modelling and control -- Representation of robust and non-robust solutions of nonlinear discrete-continuous systems -- Controller design of hybrid systems -- What can we learn from synchronous data-flow languages? -- Verification of real time chemical processing systems -- Functional specification of real-time and hybrid systems -- Relating time progress and deadlines in hybrid systems -- Semantics and verification of extended phase transition systems in Duration Calculus -- Weak refinement for modal hybrid systems -- Robust timed automata -- Data-structures for the verification of timed automata -- Synthesizing controllers for hybrid systems -- Control synthesis for a class of hybrid systems subject to configuration-based safety constraints -- Hybrid dynamic programming -- Invariance principle in hybrid systems modeled by mixed mappings -- Hybrid systems described by the complementarity formalism -- Generalized linear complementarity problems and the analysis of continuously variable systems and discrete event systems -- SHIFT: A language for simulating interconnected hybrid systems.

Sommario/riassunto

This book constitutes the refereed proceedings of the International Workshop on Hybrid and Real-Time Systems, HART'97, held in Grenoble, France, in March 1997. The volume presents 18 revised full papers and 9 short presentations carefully selected during a highly competitive evaluation process; also included are full versions or abstracts of 7 invited papers or tutorials. Hybrid Systems consist of digital devices interacting with analog environments; thus the emerging area lies at the crossroads of computer science and control theory. This book focusses on mathematically sound methods for the rigorous and systematic design and analysis of hybrid systems and real-time systems.
