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Nota di contenuto	Invited Talks -- Timed Alternating-Time Temporal Logic -- Concurrent Semantics Without the Notions of State or State Transitions -- Decidability and Expressive Power of Real Time Logics -- Contributed Papers -- Extended Directed Search for Probabilistic Timed Reachability -- Intersection of Regular Signal-Event (Timed) Languages -- Refinements and Abstractions of Signal-Event (Timed) Languages -- Bridging the Gap Between Timed Automata and Bounded Time Petri Nets -- Matching Scenarios with Timing Constraints -- Verification of the Generic Architecture of a Memory Circuit Using Parametric Timed Automata -- Model Checking Timed Automata with Priorities Using DBM Subtraction -- Symbolic Robustness Analysis of Timed Automata -- Coping with the Parallelism of BitTorrent: Conversion of PEPA to ODEs in Dealing with State Space Explosion -- Temporal Logic Verification Using Simulation -- Undecidable Problems About Timed Automata -- On Timed Simulation Relations for Hybrid Systems and Compositionality -- Integrating Discrete- and Continuous-Time Metric Temporal Logics Through Sampling -- On the Computational Power of Timed Differentiable Petri Nets -- Model-Checking Timed ATL for

Durational Concurrent Game Structures -- A Dose of Timed Logic, in Guarded Measure -- From MITL to Timed Automata -- Adding Invariants to Event Zone Automata -- Static Analysis for State-Space Reduction of Polygonal Hybrid Systems -- On the Expressiveness of MTL with Past Operators -- Simulator for Real-Time Abstract State Machines -- A Characterization of Meaningful Schedulers for Continuous-Time Markov Decision Processes.

Sommario/riassunto

This volume contains the proceedings of the 4th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS 2006), held in Paris (France) on September 25-27, 2006. FORMATS aims to be a major annual event dedicated to the study of timed systems, uniting three independently started workshops: MTCS, RT-TOOLS, and TPTS. The first three FORMATS conferences were held in Marseille (2003), Grenoble (2004), and Uppsala (2005). Timing aspects of systems have been treated independently in separate scientific disciplines, and there is a growing awareness of the difficult problems common to all of them, suggesting the interdisciplinary study of timed systems. The unifying theme underlying all these domains is that they concern systems whose behavior depends upon combinations of logical and temporal constraints, e.g., constraints on the distance between occurrences of events. The aim of FORMATS is to promote the study of fundamental and practical aspects of timed systems, and to bring together researchers from different disciplines that share interests in modelling and analysis of timed systems. In this volume, there are articles on: – Foundations and Semantics: contributions to the theoretical foundations of timed systems and timed formal languages as well as comparison between different models used by different communities (timed automata, timed Petri nets, timed MSCs, hybrid automata, timed process algebra, timed temporal logics, timed abstract state machines, as well as probabilistic models). – Methods and Tools: techniques, algorithms, data structures, and software tools for analyzing timed systems and resolving temporal constraints (mod-checking, simulation, robustness analysis, scheduling, etc).