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The logic of event clocks. Decidability, complexity and expressiveness. (English)

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J. Autom. Lang. Comb. 4, No. 3, 247-282 (1999).

Summary: In this paper we define the real-time logic of event clocks. This logic is inspired by event clock automata. The logic is defined, illustrated and shown to be decidable in PSPACE by a simple decision procedure that relies on a reduction to event clock automata. The expressive power of the logic is compared to known formalisms.

MSC:

- 03B44 Temporal logic
- 68Q60 Specification and verification (program logics, model checking, etc.)
- 03B70 Logic in computer science
- 68Q85 Models and methods for concurrent and distributed computing (process algebras, bisimulation, transition nets, etc.)
- 03B25 Decidability of theories and sets of sentences
- 03D15 Complexity of computation (including implicit computational complexity)
- 03D05 Automata and formal grammars in connection with logical questions

Cited in 7 Documents

Keywords:

real-time logic of event clocks; event clock automata