

Badaloni, S.; Falda, M.; Giacomini, M.

Solving temporal over-constrained problems using fuzzy techniques. (English) Zbl 1152.90518
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Summary: The satellite-scheduling problem represents an interesting field to test non-conventional temporal solvers because scheduling-problems are inherently over-constrained and, moreover, the tasks may be known in an imprecise and uncertain manner. In this paper, we present an application of our fuzzy temporal reasoning system to the satellite-scheduling problem. First, we describe our model of integration of qualitative and quantitative temporal information affected by vagueness and uncertainty. Then, we show the usefulness of fuzzy constraints when dealing with over-constrained temporal problems.

MSC:

90B99 Operations research and management science

90C70 Fuzzy and other nonstochastic uncertainty mathematical programming

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Keywords:

fuzzy temporal reasoning; over-constrained problems