Universität Basel

Publication

Temporal Planning as Refinement-Based Model Checking

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Planning as model checking based on source-to-source compilations has found increasing attention. Previously proposed approaches for temporal and hybrid planning are based on static translations, in the sense that the resulting model checking problems are uniquely defined by the given input planning problems. As a drawback, the translations can become too large to be efficiently solvable. In this paper, we address propositional temporal planning, lifting static translations to a more flexible framework. Our framework is based on a refinement cycle that allows for adaptively computing suitable translations of increasing size. Our experiments on temporal IPC domains show that the resulting translations to timed automata often become succinct, resulting in promising performance when applied with the directed model checker MCTA.