

**Mclean, David; Rybakov, Vladimir V.**

**Computing truth of logical statements in multi-agents' environment.** (English) Zbl 07325001  
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Summary: This paper describes logical models and computational algorithms for logical statements (specs) including various versions of Chance Discovery (CD). The approach is based at temporal multi-agent logic. Prime question is how to express most essential properties of CD in terms of temporal logic (branching time multi-agents' logic or a linear one), how to define CD by formulas in logical language. We, as an example, introduce several formulas in the language of temporal multi-agent logic which may express essential properties of CD. Then we study computational questions (in particular, using some light modification of the standard filtration technique we show that the constructed logic has the finite-model property with effectively computable upper bound; this proves that the logic is decidable and provides a decision algorithm). At the final part of the paper we consider interpretation of CD via uncertainty and plausibility in an extension of the linear temporal logic LTL and computation for truth values (satisfiability) of its formulas.

**MSC:**

68 Computer science  
03 Mathematical logic and foundations

**Keywords:**

temporal logics; multi-agent logics; chance discovery; CD; Kripke-hintikka models

**Full Text:** [MNR](#)

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