This paper deals with the computational complexity of admissibility and unifiability with parameters in transitive modal logics. It is a continuation of the author’s paper [ibid. 166, No. 9, 881–933 (2015; Zbl 1408.03015)], which the author strongly suggests to read. Thus we confine ourselves to quote from the present paper’s Abstract: “We completely classify the complexity of unifiability or inadmissibility in any clx (i.e., cluster-extensible) logic as being complete for one of $\Sigma^\text{exp}_2$, NEXP, coNEXP, PSPACE or $\Pi^p_2$. […] Our upper bounds are specific to clx logics, but we also include similar results for logics of bounded depth and width. In contrast, our lower bounds are very general: they apply each to a class of all transitive logics whose frames allow occurrence of certain finite subframes. […] We prove PSPACE-hardness of derivability for a broad class of transitive logics that include all logics with a disjunctive property.”

Reviewer: Ernst-Erich Doberkat (Dortmund)

MSC:

03B45 Modal logic (including the logic of norms)
68Q17 Computational difficulty of problems (lower bounds, completeness, difficulty of approximation, etc.)
68Q15 Complexity classes (hierarchies, relations among complexity classes, etc.)
03D15 Complexity of computation (including implicit computational complexity)

Keywords:

modal logics; computational complexity; equational unification

Full Text: DOI arXiv

References:


This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.