

Dynamic Logic of Propositional Assignments as a Framework for Knowledge Representation

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Dynamic Logic of Propositional Assignments (DL-PA) is an interesting variant of PDL whose atomic programs are assignments of propositional variables [BHT13]. Its mathematical properties differ from PDL: satisfiability and model checking are both PSPACE-complete. These results follow from the close relation of DL-PA with quantified boolean formulas, coming with expressivity and succinctness results. DL-PA is a powerful framework for knowledge representation, encompassing reasoning about actions and plans [HMNDBW14], update and revision operations [Her14], judgment aggregation [NGH18], and abstract argumentation frameworks and their modification [DHP19].

References

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