

An infinitary treatment of full μ -calculus

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We explore the proof theory of the modal μ -calculus with converse, aka the ‘full μ -calculus’. Building on nested sequent calculi for tense logics [2] and infinitary proof theory of fixed point logics [1], a cut-free sound and complete proof system for full μ -calculus is proposed. As a corollary of our framework, we also obtain a direct proof of the regular model property for the logic [4]: every satisfiable formula has a tree model with finitely many distinct subtrees. To obtain this result we appeal to the basic theory of well-quasi-orderings in the spirit of Kozen’s proof of the finite model property for μ -calculus [3].

References

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