

THEORIES OF TARSKIAN TRUTHPREDICATES AND REFLECTION PRINCIPLES

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We study extensions of Peano arithmetic by iterated truthpredicates satisfying Tarski biconditionals for truth. We consider reflection principles for such theories and study the associated reflection algebras from the point of view of modal logic. On the basis of these methods we obtain conservation results and the results characterizing proof-theoretic ordinals of such theories in various levels of the hyperarithmetical hierarchy. These theories can then be related to the standard second-order theories of “predicative” strength, which gives an alternative method of analysing these well-known systems.

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