

CONSERVATION RESULTS FOR FINITE SETS OF CONDITIONAL SENTENCES

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April 29, 2011

Abstract. In this work we study a number of conservation results for arithmetical theories axiomatized over a basic theory T by set, E , of sentences of the form $\alpha \rightarrow \beta$. The examples considered include a result of R. Kaye on finite sets of instances of parameter free Σ_{n+1} -induction axioms, and versions of S. V. Goryachev's theorem on local reflection and iterated consistency. We isolate general conditions on the sentences in E that allow us to derive conservation results between $T + F$ (where F is a finite subset of E) and extensions of T obtained by finitely many applications of some inference rules associated with E in a natural way. We focus on the relation between the cardinal of F and the number of applications of the corresponding inference rules.