

Logics of Formal Inconsistency

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Abstract

A contradiction is usually understood as a juxtaposition of opposite statements, where an opposite is commonly achieved by using a negation operation. In logics such as the classical propositional logic contradiction becomes synonymous with inconsistency. However, in general, there are two forms of inconsistency: negation inconsistency and absolute inconsistency. The collapse of the two forms of inconsistency is due to what is called principle of explosion. Paraconsistent logics are those logics in which the law of explosion does not hold. In other words, paraconsistency is the study of contradictory yet non-trivial theories. The above mentioned forms of inconsistency are not equivalent in these logics. In this talk, we will discuss a class of paraconsistent logics, called Logics of Formal Inconsistency (LFIs). These constitute a class of paraconsistent logics which internalize the metatheoretical notions of consistency and inconsistency at the object language level. LFIs are canonically used to encode all consistent inferences in a data (which may contain contradictory pieces of information) without leading to triviality.