

Semantics and Proof Theory in Team Play: The Case of Paraconsistent Logics

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A useful modular semantics is an important property of any proof system: it can be used to characterize important syntactic properties of the system, provide insights into its underlying logic, and in many cases induce a decision procedure for it. Recent developments in the field of paraconsistent logics are an interesting case which exemplifies the cross-fertilization between semantic explorations and proof theoretical developments. In this talk I will survey the framework of non-deterministic semantics and its proof-theoretical applications, and demonstrate how non-deterministic semantics pushed forward the development of analytic Gentzen-type calculi for the large family of Logics of Formal Inconsistency.