

Completions and the Schuette method

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Abstract

The cut-elimination theorem of Gerhard Gentzen is one of the most beautiful and useful theorems in structural proof theory. For certain logics there is an algebraic view on cut-elimination in which this property is proved via completions of certain semi-algebraic structures corresponding to cut-free sequent calculi. There is, however, for intuitionistic propositional logic another way to obtain Heyting algebras refuting an underivable sequent, the so-called Schuette method. We describe this method and compare it to the method of producing algebras via completions.