

Topos-theoretic completeness theorems

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Abstract

In this talk we will delve into the background details of the previous talk by introducing syntactic proof systems and their categorical semantics, including the construction of syntactic categories and κ -classifying toposes, as well as the role of certain properties of Grothendieck topologies and Kripke-Joyal semantics. We will then study some topos-theoretic completeness theorems for certain infinitary logics that generalize results of Deligne and Joyal.