Boolean-valued models revisited

Boolean-valued models generalize the notion of models in sets, allowing formulae to take truth-values in a Boolean algebra. Such models allow, for example, an alternative (but equivalent) approach to forcing in set-theory.

In this talk we will take a fresh look at Boolean valued models, focusing in particular on three aspects - simple closure properties, term models, and the relationship between elementary equivalence and isomorphisms of models.

A rough outline of the talk might be as follows:

— Competing definitions of Boolean valued models

— The prime ideal theorem and its generalizations (Rasiowa-Sikorski, Martin)

— Application 1: Łoś' theorem

— Universal (term) models

— Application 2: Completeness à la Rasiowa-Sikorski

— Topological spaces of models

— Elementary equivalence and isomorphisms of models

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