

Logikseminariet Stockholm–Uppsala

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Saturation and expansions of models of arithmetic

In the early thirties Skolem introduced non-standard models of arithmetic. Today we know that the class of models of \mathcal{PA} (first-order arithmetic) is large and complex; and all models are themselves complex, for example, the standard model is the only one which is recursively representable (Tennenbaum, -59).

By simple cardinal arguments there can be no countable saturated model of \mathcal{PA} . However, there are countable recursively saturated ones:

A model is recursively saturated if every type over the model (with finitely many parameters) which is recursive (i.e., the set of Gödel parameters) consistent with the theory of the model has an expansion satisfying Ψ . For countable models of \mathcal{PA} these two notions coincide.

I will discuss variants on the resplendency property which concludes that the expansion not only satisfies a given sentence but also omits a given type.

Onsdag 30 november kl. 10.30–12.15,
sal 3513, MIC,
Polacksbacken, Uppsala.

<http://www.math.su.se/~jesper/seminarier/>