Philip Welch (University of Bristol / Uni Konstanz Zukunftskolleg)

When cardinality determines the power set

We investigate when the predicate " $x = $ Powerset(y)" can be Sigma_1(Card) where Card is a predicate for the cardinal numbers. This has relations to the Härtig quantifier logic which is intermediate between first and second order logic. We discuss Löwenheim-Skolem numbers for such a logic, and, to an extent, analyse the class of its validities. (This is joint work with Jouko Väänänen.)