

Speaker: Linda Westrick

Title: Determined Borel sets in reverse math

Abstract: The standard definition of a Borel code in reverse math doesn't require the model to believe that each real is either in the coded set or in its complement. In fact, the statement "for every Borel coded set, either it or its complement is non-empty" already implies ATR_0 . We define a determined Borel code to be a Borel code with the property that every real is contained either in the coded set or in its complement. While the statement "every Borel set has the property of Baire" is equivalent to ATR_0 due to the above-mentioned technicality, the statement "every determined Borel set has the property of Baire" is not. We discuss the strength of this statement and other statements involving Borel sets in reverse math. Joint work with Astor, Dzhafarov, Montalban and Solomon.