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The Ax-Grothendieck Theorem and Algebraic Friends

Abstract:
The Ax-Grothendieck Theorem is a main example how one can use model theory to prove an algebraic statement. However, Ming-Chang Kang has given a proof of an even more general version of Ax-Grothendieck in 1993 by using Hilbert’s Nullstellensatz. But this proof also uses the reduction of the statement to finite fields. This is possible due to the reformulation of an algebraic statement by Hilbert’s Nullstellensatz. In this talk we will look at the model theoretic and the algebraic proof of Ax-Grothendieck and show that the arguments in the proofs can be used in some other proofs.

The seminar corresponds to an exam of the course "Algebraic Geometry II"

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