

Graduiertenkolleg

Experimentelle und konstruktive Algebra



Kolloquiumsvortrag

Dienstag, 8. Januar 2013, 15:45 Uhr, Hörsaal III

IHSEN YENGUI (Université de Sfax, Tunesien):
Making the use of maximal ideals constructive

The results I will present enter in the program of deciphering hidden constructive contents in abstract proofs of concrete theorems following the philosophy developed by HENRI LOMBARDI in many recent papers and can be seen as a partial realization of Hilbert's program for abstract commutative algebra.

This philosophy consists in replacing some abstract objects, which only exist according to the principle of the excluded middle and Zorn's lemma, by finite approximation of these same objects using the dynamical method.

I will explain how this method allows us to make the use of maximal ideals constructive (when passing modulo a maximal ideal or localizing at a maximal ideal) by treating the following academic examples:

- Suslin's lemma for elimination (the only nonconstructive step of Suslin's proof of Serre's conjecture)
- Lequain-Simis theorem on projective modules (the generalization of the Quillen-Suslin theorem to Prüfer domains)
- dynamical Gröbner bases

Wir laden alle Interessierten herzlich ein.

Ab 15:00 Uhr gibt es Kaffee und Tee in der Bibliothek des Lehrstuhl D für Mathematik.