STUDENT WORKSHOP SZCZECIN 2019

Speaker: Robert Baumann (Technische Universität Dresden)

Title: *Decidability of the existential theory of power series fields over finite fields*

Abstract: In 2016 Sylvy Anscombe and Arno Fehm proved an existential Ax-Kochen-Ershov-principle for equicharacteristic henselian fields. As a direct consequence, this gave an unconditional proof that the existential theory of power series fields over finite fields is decidable, i.e., Hilberts tenth problem for such fields has a positive solution. We present a second proof of this result given in the same paper which heavily involves the model theory of tame valued fields.