► ALEXANDRA SHLAPENTOKH, First-Order and Existential Definability and Decidability in Positive Characteristic.

Department of Mathematics, East Carolina University, Greenville, NC 27858, US. *E-mail*: shlapentokha@ecu.edu.

 ${\it URL} \ {\it Address:} \ {\tt www.personal.ecu.edu/shlapentokha}.$

We prove that the existential theory of any function field K of characteristic p > 0 is undecidable in the language of rings provided the constant field does not contain the algebraic closure of a finite field. (In the case K is uncountable we consider equations with coefficients in a finitely generated subfield.) We also complete the proof of the characteristic 2 higher transcendence degree case left out from the main theorem of [ES09] to show that the first-order theory of **any** function field of positive characteristic is undecidable in the language of rings without parameters.

[ES09]KIRSTEN EISENTRÄGER AND ALEXANDRA SHLAPENTOKH, Undecidability in function fields of positive characteristic, International Mathematics Research Notices, vol. 21 (2009), pp. 4051–4086.