SOLVING $y' = y$ IN POSITIVE CHARACTERISTIC

HERWIG HAUSER

Abstract. Grothendieck's p-curvature conjecture aims at giving a criterion for a linear ordinary differential equation with polynomial coefficients over Q to have a full basis of algebraic solutions. Namely, this should be the case if and only if, for almost all primes p, the reduction of the equation modulo p has a full basis of polynomial solutions.

In the lecture we will provide evidence why this conjecture is still wide open. Various examples will illustrate some of the obstacles one has to overcome when studying the problem.

Herwig Hauser, University of Vienna
Email address: herwig.hauser@univie.ac.at

Date: 5-7 October 2022.