

## **Artin–Schreier defect extensions of rational function fields.**

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In connection with problems of algebraic geometry like local uniformization, we consider Artin-Scheier defect extensions of rational function fields in two variables over algebraically closed fields of positive characteristic. We study the problem of constructing infinite towers of such extensions.

We classify Artin-Schreier defect extensions into "dependent" and "independent" ones, according to whether they are connected with purely inseparable defect extensions, or not. To understand the meaning of the classification for the issue of local uniformization, we consider various valuations of the rational function field and investigate for which it admits an infinite tower of dependent or independent Artin–Schreier defect extensions.

This is joint work with Franz-Viktor Kuhlmann.