

Around tame fields: $F_q((Q))$, eliminations, transfer, and beyond

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I will report on recent advances in and around the theory of tame valued fields. Beginning with the relevant Ax-Kochen-Ershov principles (now in arbitrary imperfection degree), I will explain recent joint work with Boissonneau in which we prove elimination results in theories of separably tame fields with finite residue fields, showing that each formula is equivalent (modulo such theories) to an "E-1" formula, the precise forms of which I will describe. These results, though not the methods, are related (and partially generalize) to work of Lisinski who deduced the decidability of $(F_q((Q)), t)$ -- among others -- from an argument of Kedlaya; I will describe that part of the story as well.

Finally, I will describe related work of Soto Moreno, who has refined the NIP transfer arguments (of Delon, Bélair, Jahnke--Simon, and others) in the more specialised setting of (separably) algebraically maximal fields.