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Reconstructing Function Fields from their ℓ-adic Cohomology

This talk will present some recent work in progress which shows that the function field of a higher-dimensional variety is determined, up-to isomorphism, from its ℓ-adic cohomology ring, when it is endowed with the Galois action of a "sufficiently global" base field. A key step in this result, which may be of independent interest, is the explicit determination of the divisorial vauations of the function field in question, and the cohomology of their residue fields, using the given Galois-theoretical information. A comparison with Bogomolov's programme and the Bogomolov-Pop conjecture in birational anabelian geometry will also be discussed.