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A generalization of the Manin–Mumford Theorem

Let G be a semiabelian variety defined over a number field K. Let X be a subvariety of G defined over K^{alg}. The Manin–Mumford Theorem describes the intersection of $X(K^{\mathrm{alg}})$ with the torsion subgroup G_{tor} of G. More precisely, if X is an irreducible subvariety and $X(K^{\mathrm{alg}}) \cap G_{\mathrm{tor}}$ is Zariski dense in X, then X is a translate of an algebraic subgroup of G by a torsion point. In the present talk we show that we obtain the same conclusion about X assuming only that it contains a Zariski dense set of points of small height. Because all torsion points of G have height 0, we obtain that Manin–Mumford Theorem is a particular case of the result we present. Finally, we present a positive characteristic version of the Manin–Mumford Theorem in the context of Drinfeld modules.