The number of maximal torsion cosets in subvarieties of tori

César Martínez

Université de Caen, França

The toric version of the Manin-Mumford conjecture states that the Zariski closure of the torsion points in a subvariety of $\mathbb{G}_m^n$ is a finite union of torsion cosets (translates of subtori by torsion points). This conjecture was first proven by Laurent in 1984. In this talk I will give a method to obtain effective bounds on the number of torsion cosets of a variety $V$ in terms of the degree of $V$, and in terms of the volume of the Newton polytope of defining polynomials of $V$. This solves the conjectures of Ruppert, and Aliev and Smyth on this bound.