

Seminari de Geometria Algebraica 2015/2016 (UB-UPC)

Divendres 19 de febrer a les 15 hs, aula B1 FM-UB

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The number of maximal torsion cosets in
subvarieties of tori

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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.
