

Northeastern University



Mathematics Department

Geometry, Physics, and Representation Theory Seminar

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Thursday, March 15, 2:50-3:50 pm, Lake Hall 509

The normalized volume of a singularity is lower semi-continuous

Abstract

The normalized volume of a singularity is lower semi-continuous. Motivated by work in differential geometry, Chi Li introduced the normalized volume of a klt singularity as the minimum normalized volume of all valuations centered at the singularity. This invariant carries some interesting geometric/topological information of the singularity. In this talk, we show that in a \mathbf{Q} -Gorenstein flat family of klt singularities, normalized volumes are lower semicontinuous with respect to the Zariski topology. As an application, we show that K -semistability is a very generic or empty property in a \mathbf{Q} -Gorenstein flat family of \mathbf{Q} -Fano varieties. This is a joint work with Harold Blum.