

Northeastern University



Mathematics Department

Geometry, Physics, and Representation Theory Seminar

Zhixian Zhu

University of California, Riverside

Thursday, February 22, 2:50-3:50 pm, Lake Hall 509

Fujita's freeness conjecture for 5-fold.

Abstract

Let X be a smooth projective variety of dimension n and A any ample line bundle. Fujita conjectured that the adjoint line bundle $\mathcal{O}(K_X + mA)$ is globally generated for any m greater or equal to $\dim(X) + 1$. we prove Fujita's freeness conjecture for smooth 5-folds via a singularity approach. More explicitly, we constructed an effective \mathbf{Q} -divisor D , and study the singularity of the pair (X, D) , whose multiplier ideals providing the required vanishing result.