Séminaire d'algèbre, topologie et géométrie
Jeudi 21 mai à 14h
Salle I

Adrian Langer

Varsovie

Chern classes of vector bundles and some applications

The main aim of the lecture is to survey results on known restrictions on Chern classes of vector bundles and related invariants of algebraic varieties. One of such restrictions is given by the Bogomolov–Miyaoka–Yau inequality. Generalizations of this inequality were used by F. Hirzebruch to bound possible configurations of line arrangements on a complex projective plane and by Y. Miyaoka to bound genus of algebraic curves on surfaces. I will focus on recent progress on analogous questions in positive characteristic p, where all such results were classically known to fail. If time permits I will also talk about computation of Chern classes of vector bundles with connections on open varieties and possible applications of such a computation.