Leibniz Universität Hannover

Oberseminar
Institut für Algebraische Geometrie

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Splitting unramified Brauer classes and the period-index problem

Given a class t in the Brauer group of a field K, one can consider its period $p(t)$ (order) and its index $i(t)$ (the smallest degree of a central simple algebra representing it). It is known that the period divides the index and they have the same prime factors. The so-called period index problem asks to bound the integer m such that $i(t) \mid p(t)^m$. In recent works joint with D. Huybrechts, we give a uniform bound for unramified classes when K=K(X) is the function field of an integral projective variety X over an algebraically closed field. This bound only depends on X. Along the way, we also prove that these Brauer classes split (i.e. vanish) on torsors under a fixed abelian variety over K. I will present these results, with emphasis on the geometric constructions involved.

Donnerstag, 18.01.2024, 16:30 - 17:30, B302.
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Alle Interessierten sind herzlich eingeladen.