

Title: A geometric approach to the period-index problem for the Brauer group

Abstract: The period-index problem for the Brauer group has its origins in a simple question: how many quaternion algebras over a given field can be tensored together before one knows that the result cannot be a division algebra? This question is surprisingly subtle, and approaches to it during the past 70 years have drawn on class field theory, Galois cohomology, and the deformation theory of Azumaya algebras. I will discuss a new approach to this problem which relates it to the geometry of certain algebraic stacks and classical problems on the existence of rational points on various types of varieties.