Northeastern University  Mathematics Department

Geometry, Physics, and Representation Theory Seminar

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Thursday, December 6, 2:50-3:50 pm, Lake Hall 509

Motivic classes of algebraic groups

Abstract

The Grothendieck ring of algebraic stacks was introduced by Ekedahl in 2009. It may be viewed as a localization of the more common Grothendieck ring of varieties. If G is a finite group, then the class BG of its classifying stack BG is equal to 1 in many cases, but there are examples for which $BG \neq 1$. When G is connected, BG has been computed in many cases in a long series of papers, and it always turned out that $BG * G = 1$. We exhibit the first example of a connected group G for which $BG * G \neq 1$. As a consequence, we produce an infinite family of non-constant finite étale group schemes A such that $BA \neq 1$.