

Northeastern University



Mathematics Department

Geometry, Physics, and Representation Theory Seminar

Ivan Martino

Northeastern University

Thursday, September 20, 2:50-3:50 pm, Lake Hall 509

About the motivic class of BG

Abstract

In the beginning of the last century, Emmy Noether wondered about the rationality of the field extension $k(V)^G/k$ for any finite group G and any field k , where $k(V)^G$ are the G -invariant rational functions over the regular representation V of G .

In 1969 Swan provided the first counterexample to such rationality for certain examples of cyclic groups and k being the field of rational numbers. In this talk I would like to relate this problem to the class of the classifying stack of a (finite) group, BG , in the Grothendieck ring of algebraic stack and summarize some results of Ekedahl and Totaro.

In 2016, I have shown that that the motivic class of BG is trivial if G is a finite subgroup of $GL_3(k)$. Finally, I will present some recent work (in collaboration with R. Singh) on the underlying combinatorial structure behind these motivic problems.