

abstract

MEMBERS SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

In this talk I will discuss a joint work with Lupercio, Nevins and Uribe, in which we use motivic integration to give a theory of Chern classes for singular algebraic varieties that is birationally well-behaved (i.e., with a "stringy" flavor). The motivation for this theory comes from the fact that Chern classes of smooth varieties behave well under certain birational modifications; this was realized by Aluffi, who also--independently from us--proposed the same theory for singular varieties without the use of motivic integration. The main purpose of this talk is to provide some details of the construction. I will define motivic integration over a base and explain how one can extract a constructible function (defined over the base) from any given relative motivic integral. Using these functions and MacPherson transformation, we will finally be able to define "stringy Chern classes". Using formal properties of motivic integration, I will discuss the main properties of these classes. Explicit examples will be presented to compare these classes with Schwartz-MacPherson Chern classes.