Algebra Seminar

Secants, Gorenstein ideals, and stable complexes

Brooke Ullery

Emory University

Abstract: As Bertram describes in his thesis, certain rank two vector bundles on curves can be parametrized by a projective space into which the curve itself embeds. The idea is that the least so-called "stable" bundles correspond to points on the embedded curve, the next most unstable lie on the first secant variety, then on the second secant variety, and so on. In this talk, I'll describe joint work with Bertram in which we generalize this to $\mathbb{P}^2$ by replacing vector bundles with complexes of vector bundles. This leads to a surprising connection between height three Gorenstein ideals, secant varieties (and their generalizations), and stability conditions on the bounded derived category of coherent sheaves on $\mathbb{P}^2$.

Tuesday, September 6, 2022, 4:00 pm

Mathematics and Science Center: MSC N304

Mathematics
Emory University