

THE GENUS OF SPACE CURVES AND DERIVED CATEGORIES

WEDNESDAY MARCH 28, AT 4 PM, IN CUPPLES I ROOM 199

Speaker: Benjamin Schmidt (UT-Austin)

Abstract: A 19th-century problem in algebraic geometry is to understand the relation between the genus and the degree of a curve in complex projective space. This is easy in the case of the projective plane but becomes quite involved already in the case of three-dimensional projective space. In this talk, I will give an introduction to the topic, introduce stability conditions in the derived category, and explain how the two can be related. From a modern perspective, there is no reason to restrict to the case of projective space, and I will discuss some recent progress on the question in the case of abelian threefolds in joint work with Emanuele Macri.