

Columbia University

Algebraic Geometry Seminar

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Michigan

QUOT SCHEMES AND STABLE MAPS

Given a vector bundle E on a smooth curve C , we would like to understand the space parameterizing rank k degree d quotients of E .

The aim of this talk is to compare two compactifications of this space, one Grothendieck's Quot scheme, and the other a compactification using stable maps.

The stable map space has some advantages, and (for instance) easily gives a dimension bound valid for both compactifications. This bound allows us to prove that the Quot scheme is irreducible for large degrees d , a fact previously only known for trivial bundles.

Another application of the bound is to base point freeness results for the generalized theta divisor on the moduli space of stable bundles.

Many of these results have recently been generalized by Y. Holla to parabolic reductions of arbitrary G -bundles. This is joint work with Mihnea Popa.

Friday, April 26, 2002

2:30pm

Mathematics 417