

Stanford Algebraic Geometry — Seminar —

ON THE TAUTOLOGICAL RINGS OF STABLE MAP SPACES IN GENUS ZERO

ANCA MUSTATA (UIUC, MSRI) 2:30–3:20

Abstract

Let X be a projective variety. The Kontsevich-Manin moduli spaces of stable maps into X admit naturally defined tautological intersection rings, such that the Gromov-Witten invariants of X are intersection numbers of tautological classes.

In joint work with Andrei Mustata, we describe a system of generators and relations for these tautological rings, induced by generators and relations in the cohomology ring of X , and by boundary classes. Existence of other relations depends on the J -function of X . The method is based on the birational geometry of the stable map spaces.

QUASI-MAP SPACES, SMALL QUANTUM COHOMOLOGY AND BIRATIONAL TRANSFORMATIONS

ANDREI MUSTATA (UIUC, MSRI) 3:30–4:20

Abstract

The space of quasi-maps is a simple compactification for the space of maps from curves to a variety. I will present an extension of the relation between the cohomology of the space of quasi-map and the small quantum cohomology of toric Fano varieties (as presented by Kapranov) to arbitrary targets. Consequences for the computation of small quantum cohomology and the behavior of the small quantum cohomology under some birational transformations will be discussed. Part of this is joint work with Anca Mustata.

Friday, May 5
Room 383-N