

Columbia University

Algebraic Geometry Seminar

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ORBIFOLD QUANTUM COHOMOLOGY WITH GRAVITATIONAL DESCENDANTS FOR THE CLASSIFYING SPACE OF A FINITE GROUP

Recently several people have given formulations of an "orbifold quantum cohomology"; that is, an analog of quantum cohomology for targets which are orbifolds or stacks, rather than manifolds or varieties. A key point is that the theory has a larger state space than just the usual cohomology of the target stack. The simplest example of this theory is the case of the classifying stack BG of a finite group G , i.e., a point with G acting trivially on it. The orbifold quantum cohomology of BG is the center of the group algebra $\mathbb{Q}[G]$. I will survey the basic theory for the case of BG . Then I will discuss recent work with Takashi Kimura on gravitational descendants (Mumford-Miller-Morita classes), and analogs of the puncture and dilaton equations, and the Virasoro operators.

Friday, November 16, 2001

2:30pm

Mathematics 417