

Linda Chen

Ohio State University

Title:

Orbifold Cohomology and Toric Varieties

Abstract:

Toric varieties are combinatorially defined spaces, often used as excellent test cases in algebraic geometry. Recent developments in physics have motivated the introduction of new cohomology theories (orbifold cohomology) whose invariants coincide with classical invariants of a nice (crepant) resolution of singularities. We introduce a generalization of toric varieties, compute their orbifold Chow rings, and give a connection to resolutions of singularities. We also summarize some recent related developments in algebraic and symplectic geometry.