

Integrality condition on the Stanley-Reisner ring.

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Abstract: A simplicial complex K is described algebraically by a certain quotient of polynomial ring with coefficient ring R , called Stanley - Reisner ring. In toric geometry, a simplicial complex with certain geometric data determines an algebraic variety X with an action of algebraic torus having a dense orbit. Moreover, if X is smooth, it is well-known that the Stanley - Reisner ring with $R = \mathbb{Z}$ is isomorphic to the equivariant cohomology ring of X with \mathbb{Z} -coefficients. However, if X has orbifold singularity, then the same result holds only for rational coefficients. In this talk, we define an *integrality condition* on Stanley - Reisner ring and show how it is related to the equivariant cohomology ring of X with \mathbb{Z} -coefficients. This is a joint work with Anthony Bahri and Soumen Sarkar.

Pre-requisites :