SCMS Seminar

RELATIVE ALGEBRO-GEOMETRIC STABILITIES OF POLARIZED TORIC MANIFOLDS

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Lecture

Time: 2:00-3:00 pm., Friday, January 5, 2018

Venue: Room 2201, East Main Guanghua Tower, Handan Campus

Abstract: The famous Yau-Tian-Donaldson conjecture asserts that the existence of canonical Kahler metrics is related to the stabilities of the underlying manifold in sense of geometric invariant theory. In this talk, we discuss the relative Chow and K-stability of toric manifolds, on which both of Chow and K-stability have reductions. The reduction of K-stability is based on the reduced Futaki invariant for the toric degenerations defined by Donaldson. The reduction of relative Chow stability can be obtained by the Hilbert-Mumford criterion in two ways. One is to consider the criterion for the maximal torus action and its weight polytope. The other way is to use the criterion for C∗-actions and Chow weights associated to toric degenerations following Donaldson and Ross-Thomas. By the reductions, we give criterions for the stabilities and instabilities of toric manifolds as well as examples.

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