

SCMS Seminar



L2 COHOMOLOGY OF EQUI-SINGULAR KÄHLER VARIETIES

Speaker: Chen Zhao
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Time: 10:00-10:30, Tuesday, July 3rd, 2018

Venue: Room 2213, East Guanghua Tower (Main), Fudan University

Abstract:

Intersection cohomology discovered by Mark Goresky and Robert Macpherson in 1974 is a cohomology theory for spaces with singularities which has the Poincare duality and the Kahler package. Almost at the same time, Jeff Cheeger found a certain kind of L2 cohomology with the same properties. In 1982, Cheeger, Goresky and Macpherson conjectured that the intersection cohomology of a projective variety V is naturally isomorphic to the L2 cohomology of the incomplete manifold $V - \text{Sing} V$ with metric induced from a projective embedding. Up to now, this conjecture has only been proved when the singularities are isolated. In this talk, we report our recent work on the conjecture when the projective variety has equisingular singular locus. This is a work joint with Junchao Shentu.