

# SCMS Seminar



## ON THE $L_2$ INTERPRETATION OF INTERSECTION COHOMOLOGY

**Speaker: Chen Zhao**

**Shanghai Center for Mathematical Sciences**

**Time:** 11:00 - 11:30 a.m., Wednesday, Nov 22th, 2017

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

### **Abstract:**

Intersection Cohomology is an ideal cohomology theory of spaces with singularities. It has the Poincare duality and the Kahler package, which are the crucial properties for the singular cohomology for complex projective manifold. To establish the hamonic integral theory for the intersection cohomology of projective varieties, Cheeger, Goresky and Macpherson posted a conjecture that the intersection cohomology of a projective variety should be isomorphic to the  $L_2$  cohomology with respect to a certain Kahler metric. Up to now, this conjecture has only been confirmed when the singularities are isolated. In this report we confirm the conjecture when the projective variety has equisingular singular locus with smooth projective cones. This is a work joint with Junchao Shentu.