

SCMS Seminar



ABSOLUTE CONSTRUCTIBLE SETS

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Time: 14:00-15:00, Wednesday, August 2, 2017

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

Abstract: Motivated by Deligne's definition of absolute Hodge cycles, Simpson introduced the concept of absolute constructible sets in the moduli space of local systems on a complex smooth projective variety. In this talk, I will discuss a generalization of Simpson's absolute constructible sets. The new absolute constructible sets can be defined over any complex smooth variety and can be lifted to the derived category of constructible complexes. For rank one local systems, we have a structure theorem of absolute constructible sets, and in higher rank, we have some conjectures of Andre-Oort type. I will talk about two applications. The first is a generalization of the structure theorems of cohomology jump loci. And the second is the proof of the decomposition theorem of any rank one local system by reducing to the ones of geometric origin. This is joint work with Nero Budur.