

SCMS Seminar



AN INTRODUCTION TO TRACE FORMULA

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Academy of Mathematics and Systems Science

Lecture 1

Time: 10:00-12:00 am., Monday, Oct.12, 2015

Lecture 2

Time: 2:00-4:00 pm., Wednesday, Oct.14, 2015

Lecture 3

Time: 2:00-4:00 pm., Friday, Oct.16, 2015

Lecture 4

Time: 10:00-12:00 am., Monday, Oct.19, 2015

Lecture 5

Time: 2:00-4:00 pm., Wednesday, Oct.21, 2015

Lecture 6

Time: 2:00-4:00 pm., Friday, Oct.23, 2015

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

Abstract: I will give six talks about Arthur's work, The Endoscopic Classification of Representations: Orthogonal and Symplectic Groups. This is the one of most important results of modern automorphic forms and automorphic representations. This is the good example for applying the trace formula and Endoscopy theory.

This is a good start for the Langlands program, which is the one of the main concern in the modern number theory. We think the trace formula is main tool to study the program. The endoscopy theory have given the stable trace formula theory (by Arthur 2003). However the power part of the stable trace formula is comparing different group. Our strategy usually is to compare the geometry side of the different group. But, Arthur's book tells us how to compare the difference group (twist endoscopic group and $GL(N)$) about the spectral side of the (twisted) stable trace formula.

In this series talk, I will introduce the back ground, the motive, and strategy. The content will contain Langlands program, the (local and global) invariant trace formula, (local and global) stable trace formula, intertwining relations, and describing the nine main theorem (four main global and five main local theorem), and some remarks, and some technology and tools.