MIT

Lie Groups

Generalizing Endoscopic Transfer - David Vogan

§1 Introduction

- Automorphic Forms, endoscopic transfer relates to Langlands, trying to generalize
- Approach is study representations of reductive algebraic $G_{\mathbb{R}}$
- Endoscopic transfer: take virtual representations of subgroup and develop virtual representations of larger group
- Local Langlands's Conjecture: analytic rep theory/K of $G(K)$ ~ alg geom of ${}^L G(K)$

§2 L-Groups

§3 Parameters

- Weil-Deligne group
- Langlands Parameter: map from Weil-Deligne group to... alg group
- Langlands: Representation Theory ~ Algebraic Geometry

§4 Endoscopy

- Mapping representations of groups via equivariant perverse sheaves

§5 Examples

Lie Group: a mathematical structure that fits the definitions of both a group and a smooth manifold.

Real Groups, Reductive Group

p-adic

Symplectic group

Rank?

Duality - homeomorphisms into 2

Lattice

Algebraic openness vs closed

Galoit group

Galoit action

Based root datum

Action

Extension

Class / Inner-class

Inertia Group

Split / Quasi-Split

L-Packet

Variety (in context: complex algebraic variety)

Conjugation

Identity map

Map

Triviality

'Over' ... field? (over K seems significant)

Potent/Nilpotent

Orbits

Reduction

Equivariant perverse sheaves

Image

Dual group

Support

Simplicity, semi-simplicity

Centralization

Normalization