

HAO YING

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Research Interests

My research focuses on the representation theory of real Lie groups, especially Harish-Chandra modules, their globalizations, and the theta correspondence. I am also interested in related areas such as representations of p-adic groups, automorphic representations, and the (relative) Langlands program.

Education

Zhejiang University *Hangzhou, China*
Ph.D. Candidate in Mathematics (Expected Graduation: Jun. 2026) *Sep. 2021 – Present*
• Advisor: Prof. Jian-Shu Li

Zhejiang University *Hangzhou, China*
B.Sc. in Mathematics and Applied Mathematics *Sep. 2017 – Jun. 2021*

Publication

- (with Fabian Januszewski and Binyong Sun) Hausdorffness of certain nilpotent cohomology spaces. *J. Funct. Anal.* 289(10), 111120 (2025). doi:10.1016/j.jfa.2025.111120 [arXiv:2501.02799v2]

Abstract: Let (π, V) be a smooth representation of a compact Lie group G on a quasi-complete locally convex complex topological vector space. We show that the Lie algebra cohomology space $H^\bullet(\mathfrak{u}, V)$ and the Lie algebra homology space $H_\bullet(\mathfrak{u}, V)$ are both Hausdorff, where \mathfrak{u} is the nilpotent radical of a parabolic subalgebra of the complexified Lie algebra \mathfrak{g} of G .

Invited Talks

- **Mini-talk** (20 minutes), *The Ninth International Conference on Representation Theory*. June 17-23 2025. Title: “Hausdorffness of certain nilpotent cohomology spaces.”

Conferences Attended

The Ninth International Conference on Representation Theory Nanjing, China
Real reductive groups and Theta correspondence Jun. 2025
Yunnan, China Jul. 2024

Teaching Experience

- Teaching Assistant, Undergraduate Algebraic Topology, Zhejiang University, Spring 2022
 - Teaching Assistant, Undergraduate Homological Algebra, Zhejiang University, Fall 2021

Skills

Languages: Chinese (native), English (fluent).