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*
                                                                                                                                                           Jun. 2025
Real reductive groups and Theta correspondence   *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).