Hao Zhang

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EDUCATION

Tsinghua University Beijing, China
Ph.D., Mathematics | Advisor: Bin Gui 09/2021 - Present

Nanjing University Nanjing, China
B.S., Mathematics 09/2017 - 07/2021

PUBLICATIONS

1. Non-Equivalence of Smooth and Nodal Conformal Block Functors in Logarithmic CFT. arXiv:2509.07720.

2. Bin Gui, **Hao Zhang** How are pseudo-q-traces related to (co)ends? arXiv:2508.04532.

3. Bin Gui, **Hao Zhang** Pseudotraces on Almost Unital and Finite-Dimensional Algebras. arXiv:2508.00431.

4. Bin Gui, **Hao Zhang** Analytic Conformal Blocks of C_2-cofinite Vertex Operator Algebras III: The Sewing-Factorization Theorems. arXiv:2503.23995.

5. Bin Gui, **Hao Zhang** Analytic Conformal Blocks of C_2-cofinite Vertex Operator Algebras II: Convergence of Sewing and Higher Genus Pseudo-q-traces. *Commun. Contemp. Math.*, to appear. arXiv:2411.07707.

6. Bin Gui, **Hao Zhang** Analytic Conformal Blocks of C_2-cofinite Vertex Operator Algebras I: Propagation and Dual Fusion Products. arXiv:2305.10180.

TALKS

Rocky Mountain Representation Theory Seminar Online
The sewing-factorization theorem for C_2-cofinite VOAs 05/2025

Algebra Seminar Nanjing University, China
The sewing-factorization theorem and coends 05/2025

Shenzhen Thematic Program "Representation Theory" SUSTech, China
Conformal blocks and coends 04/2025

Mathematical Physics seminar Perimeter Institute, Canada
The sewing-factorization theorem and pseudotraces for C_2-cofinite VOAs 03/2025

Quantum groups, tensor categories and quantum field theory University of Oslo, Norway
Conformal blocks and coends 01/2025

Algebra and Logic Seminar University of Denver, USA, online
The sewing-factorization theorem and pseudotraces for C_2-cofinite VOAs 11/2024

Vertex Algebras, Tensor Category and Related Topics SJTU, China
Conformal blocks and a Verlinde formula for self-dual C_2-cofinite non-rational vertex operator algebras 06/2024

Lie Group/Quantum Mathematics Seminar Rutgers University, USA
Logarithmic conformal field theory:sewing and factorization 04/2024

Mathematical Aspects of Quantum Theory TSIMF, China
Conformal blocks of C_2-cofinite vertex operator algebras 01/2024

Quantum Mathematics Seminar Tsinghua University, China
Conformal blocks of C_2-cofinite vertex operator algebras 04/2023

Honors and Awards

1. Future Scholar Scholarship of Tsinghua University (2021-2026)

2. Comprehensive Scholarship of Tsinghua University (2022-2024)

3. Excellent Teaching Assistant of Tsinghua University (2021-2023)

4. Outstanding Graduates of Nanjing University (06/2021)

5. National Scholarship (11/2020)

Teaching Experiences

Teaching assistant for Calculus   Spring 2024
Tsinghua University

Teaching assistant for Calculus   Fall 2023
Tsinghua University

Teaching assistant for Calculus   Spring 2023
Tsinghua University

Teaching assistant for Linear algebra   Fall 2022
Tsinghua University

Teaching assistant for Calculus   Spring 2022
Tsinghua University

Teaching assistant for Linear algebra   Fall 2021
Tsinghua University