Haoyu Zhu

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Education Background

Sun Yat-sen University   **Zhuhai**
Undergraduate, School of Mathematics (Zhuhai)   *2022 – present*

Courses

Commutative Algebra (Graduate)   *Feb 2024 – Jun 2024*
- **Textbook:** *Introduction to Commutative Algebras*, M.F. Atiyah, I.G. Macdonald.
- **Instructor:** Prof. Lei Zhang.
- **Grade point:** 77/100.

Representation Theory (Graduate)   *Feb 2024 – Jun 2024*
- **Textbook:** *Introduction to Lie Algebras and Representation Theory*, J.E. Humphreys.
- **Instructor:** Prof. Min Huang.
- **Grade point:** 96/100.

Real Analysis (Graduate)   *Sept 2024 – Jan 2025*
- **Textbook:** *Measure Theory and Fine Properties of Functions*, L.C. Evans, R.F. Gariepy.
- **Instructor:** Prof. Xining Li.
- **Grade point:** 85/100.

Selected Topics in Number Theory (Graduate)   *Feb 2025 – present*
- **Textbook:** *A Classical Introduction to Modern Number Theory*, Kenneth Ireland, Michael Rosen.
- **Instructor:** Prof. Chan Ieong Kuan.

Research Experience

Peking University   **Peking**
PKU Algebraic Combinatorics Experience   *Jul 2024 – Aug 2024*
- *Summary:* On Bott–Samelson rings for Coxeter groups. One can see [arxiv.org/abs/2408.10155] for details.
- *Advisor:* Dr. Tao Gui.
- *Collaborators:* Lin Sun, Shihao Wang.

Sun Yat-sen University   **Zhuhai**
College Students' Innovative Entrepreneurial Training Plan Program   *Oct 2024 – present*
- *Summary:* Comparing skein algebras and quantum cluster algebras of certain semisimple Lie algebras.
- *Advisor:* Prof. Min Huang.

Skills

Programming languages: MATLAB, SageMath, LaTeX.