



Bowen Liu

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🔗 bowenl-math.github.io

EDUCATION

- **Yau Mathematical Sciences Center, Tsinghua University** 2022/09 - Ongoing
PhD. Candidate in Algebraic Geometry
- **Beijing International Center for Mathematical Research, Peking University** 2022/02 - 2022/07
Enhanced Program for Graduate Study (2022)
- **Mathematics Department, Shandong University** 2018/09 - 2022/07
Bachelor in Information and Computing Science

RESEARCH INTEREST

My research interests focus on vector bundles and Higgs bundles, such as non-abelian Hodge theory, stability condition, classifications and so on.

PREPRINTS

- **Relative Stability Conditions on Triangulated Categories** arXiv:2411.01502
Joint work with Dongjian Wu
- **On Lan-Sheng-Zuo's conjecture** In preparation
Joint work with Mao Sheng

SEMINARS, TALKS

- **Higgs bundle and related topics seminar** Spring 2025
Self-dual equations, stability of Higgs bundle and moduli space of Higgs bundle
- **Chern numbers inequalities** 2024/05/12
Classical Bogomolov-Gieseker inequality, Miyaoka-Yau inequality
- **Topics in Hodge theory** 2024/04/09
Hodge structure, variation of Hodge structures and differential geometry of Hodge bundles
- **Algebraic de Rham complex** 2024/03/12
Comparison theorems, E_1 -degeneration of Hodge to de Rham spectral sequence
- **Toric geometry seminar** Fall 2023
Toric variety, Toric divisors, intersection theory on toric variety
- **Advanced topics in complex geometry** 2023/06/08
Uniqueness of Kähler structure on projective spaces
- **Principal bundle seminar** Spring 2023
Principal bundle and its geometry, applications in Chern-Weil theory
- **Bott-Tu seminar** Fall 2022
Spectral sequences and its applications in homotopy theory

TEACHING EXPERIENCE

- **Linear algebra** Spring 2025
Notes Taker
- **Riemann surface** Fall 2024
Teaching Assistant
- **Algebra2-H** Spring 2024
Teaching Assistant
- **Review of Algebra1** Winter 2024
Lecturer

– Algebra1 <i>Teaching Assistant</i>	<i>Fall 2023</i>
– Algebra2-H <i>Teaching Assistant</i>	<i>Spring 2023</i>
– Abstract Algebra <i>Teaching Assistant</i>	<i>Fall 2022</i>
– Algebra1-H <i>Notes Taker</i>	<i>Fall 2022</i>