

Shengxuan Zhou

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Research Interests

Partial Differential Equations, Kähler Geometry, Metric Geometry

Education

Peking University

Ph.D. in Mathematics, Department of Mathematics

Advisor: Professor Gang Tian

September 2019 – Present

Beijing, China

Lanzhou University

B.S. in Mathematics, School of Mathematics and Statistics

September 2015 – July 2019

Lanzhou, China

Publications and Preprints

On the convergence rate of Bergman metrics

Peking Math J (2022). <https://doi.org/10.1007/s42543-022-00055-z>

The asymptotic behaviour of Bergman kernels

Adv. Math. 440 (2024). <https://doi.org/10.1016/j.aim.2024.109514>

A Regularity Theory for Static Schrödinger Equations on \mathbb{R}^d in Spectral Barron Spaces

Joint work with Zi'ang Chen, Jianfeng Lu and Yulong Lu.

SIAM J. Math. Anal. 55 (2023), no. 1, 557–570.

Peak sections and Bergman kernels on Kähler manifolds with complex hyperbolic cusps

Math. Ann. (2024). <https://doi.org/10.1007/s00208-024-02798-9>

Bergman kernels on degenerations

Joint work with Linsheng Wang

arXiv:2304.01943 (Submitted).

On the Gromov-Hausdorff limits of Tori with Ricci conditions

arXiv:2309.10997 (Submitted).

Examples of Ricci limit spaces with infinite holes

arXiv:2404.00619 (Submitted).

On the L^2 volume of Bergman spaces

arXiv:2404.12840.

New exotic examples of Ricci limit spaces

Joint work with Xilun Li and Yanan Ye.

arXiv:2404.15054.

A family of 4-Manifolds with Nonnegative Ricci Curvature and Prescribed Asymptotic Cone

arXiv:2406.02279.

Talks

Geometric Analysis Seminar (Online) <i>Zhejiang University</i>	December 2021
Rutgers CA/HA/CG Seminar (Online) <i>Rutgers University</i>	April 2022
Beijing Geometry Day <i>Beijing Normal University</i>	March 2023
Recent Progress in Geometric Analysis <i>Westlake University</i>	April 2023
Geometry Seminar <i>Tsinghua University</i>	September 2023
Geometry Seminar <i>Westlake University</i>	October 2023
Differential Geometry Seminar (Online) <i>UC Berkeley</i>	February 2024
Differential Geometry Seminar <i>Capital Normal University</i>	March 2024

Teaching

Teaching Assistant: Differential Geometry <i>Peking University</i>	Spring 2020
Teaching Assistant: Differential Geometry <i>Peking University</i>	Spring 2021
Teaching Assistant: Mathematical Analysis III <i>Peking University</i>	Fall 2021
Teaching Assistant: Advanced Algebra II <i>Peking University</i>	Spring 2022
Teaching Assistant: Advanced Mathematics B <i>Peking University</i>	Fall 2022