

Shun Li 李顺

Ph.D. Student in Computational Mathematics at USTC

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Education

Ph.D. in Computational Mathematics

Sep. 2022 – Present

University of Science and Technology of China

Advisors: Prof. Mengping Zhang and Assoc. Prof. Yan Jiang

B.S. in Mathematics

Sep. 2018 – Jul. 2022

University of Science and Technology of China

Research Interests

- Low-rank and tensor methods; dynamical low-rank approximation.
- Reduced-order modeling for time-dependent partial differential equations.
- Multiscale kinetic equations and structure-preserving low-rank methods.

Publications and Preprints

- [1] Shun Li, Yan Jiang, Mengping Zhang, and Tao Xiong. “An Asymptotic-Preserving Dynamical Low-Rank Semi-Lagrangian Method for Multiscale Linear Kinetic Transport Equations”. In: *arXiv preprint arXiv:2607.27736* (2026)
- [2] Shun Li, Yan Jiang, Mengping Zhang, and Tao Xiong. “Temporal-Stability-Enhanced and Energy-Stable Dynamical Low-Rank Approximation for Multiscale Linear Kinetic Transport Equations”. In: *SIAM Journal on Scientific Computing* (2026). In press
- [3] Shun Li and Yan Jiang. “High-Order Implicit Low-Rank Method with Spectral Deferred Correction for Matrix Differential Equations”. In: *Journal of Scientific Computing* 106.3 (2026), p. 75
- [4] Lei Yang, Shun Li, Yan Jiang, Chi-Wang Shu, and Mengping Zhang. “Inverse Lax-Wendroff Boundary Treatment of Discontinuous Galerkin Method for 1D Conservation Laws”. In: *Communications on Applied Mathematics and Computation* 7.2 (2025), pp. 796–826

Teaching Experience

Numerical Methods for Nonlinear Partial Differential Equations

Spring 2024, Spring 2025

Teaching Assistant, USTC

Numerical Methods for Partial Differential Equations

Fall 2023, Fall 2024

Teaching Assistant, USTC