

Xiaojiang Zhang

CONTACT INFORMATION	School of Mathematics and Statistics Central South University, Changsha, China E-mail: zhang_xiaojiang@csu.edu.cn Website: zfc-2018.github.io/zhangxj.github.io
EMPLOYMENT	<div><div>Central South University School of Mathematics and Statistics</div><div>Jul. 2024 - present</div></div> <div><div>Shanghai Jiao Tong University Institute of Natural Sciences Postdoctoral Researcher. Mentors: H. P. Zhang and Min Tang</div><div>Jul. 2022 - Jul. 2024</div></div>
EDUCATION	<div><div>Shanghai Jiao Tong University Ph.D. in Computational Mathematics. Advisor: Min Tang</div><div>Sep. 2016 - Aug. 2022</div></div> <div><div>Central South University B.Sc. in Mathematics and Applied Mathematics</div><div>Sep. 2012 - Jun. 2016</div></div>
RESEARCH INTERESTS	Numerical methods for partial differential equations and multiscale problems; Asymptotic-preserving schemes for radiative transfer and radiation magnetohydrodynamics; Particle methods for kinetic equations in strongly magnetized regimes; Deterministic numerical methods for proton transport and dose calculation.
PUBLICATIONS AND ACCEPTED PAPERS	<div><div>1. Anjiao Gu, Xiaojiang Zhang. Asymptotic-Preserving Particle-In-Cell Method for the Magnetized Vlasov-Poisson-Fokker-Planck Equation. <i>Journal of Scientific Computing</i>, 108, Article 49 (2026). [DOI]</div><div>2. Xiaojiang Zhang, Xuemin Bai, Min Tang. Depth splitting method for the linear Boltzmann model of primary proton distribution. <i>Communications in Computational Physics</i>, accepted, 2025. [arXiv]</div><div>3. Xiaojiang Zhang, Peng Song, Yi Shi, Min Tang. A fully asymptotic preserving decomposed multi-group method for the frequency-dependent radiative transfer equations. <i>Journal of Computational Physics</i>, 491, 112368 (2023). [DOI]</div><div>4. Shi Jin, Min Tang, Xiaojiang Zhang. A spatial-temporal asymptotic preserving scheme for radiation magnetohydrodynamics in the equilibrium and non-equilibrium diffusion limit. <i>Journal of Computational Physics</i>, 452, 110895 (2022). [DOI]</div><div>5. Min Tang, Li Wang, Xiaojiang Zhang. Accurate Front Capturing Asymptotic Preserving Scheme for Nonlinear Gray Radiative Transfer Equation. <i>SIAM Journal on Scientific Computing</i>, 43(3), B759-B783 (2021). [DOI]</div><div>6. Min Tang, Xiaojiang Zhang. Semi-implicit front capturing schemes for the degenerate nonlinear radiative diffusion equation. <i>Journal of Computational Physics</i>, 436, 110290 (2021). [DOI]</div></div>

TEACHING EXPERIENCE	Central South University (CSU) <ul style="list-style-type: none"> • Probability and Statistics, undergraduate course, Fall semester, 2025. • Linear Algebra, undergraduate course, Spring semester, 2025. • Statistical Inverse Problem, graduate course, Fall semester, 2025. 	
GRANTS AND PROJECTS	<ul style="list-style-type: none"> • Young Scientists Fund, National Natural Science Foundation of China. <i>Principal Investigator</i>. • Young Scientists Fund, Natural Science Foundation of Hunan Province. <i>Principal Investigator</i>. • China Postdoctoral Science Foundation, 72nd General Program (Second Class). <i>Principal Investigator</i>, Nov. 2022 - Jun. 2024. • Nuclear Science Challenge Program for National Defense Basic Research. <i>Participant</i>, Jan. 2017 - Dec. 2019. • Special Project, CAEP Inertial Confinement Center. <i>Participant</i>, Jan. 2018 - Dec. 2019. • Strategic Priority Research Program, Chinese Academy of Sciences. <i>Participant</i>, Jan. 2020 - Dec. 2024. 	
HONORS AND AWARDS	<ul style="list-style-type: none"> • Chenxing Postdoctoral Program, Shanghai Jiao Tong University • Outstanding Graduate, Shanghai Jiao Tong University • Outstanding Student, Shanghai Jiao Tong University • Wu Wenjun Scholarship, Shanghai Jiao Tong University • Weichai Power Scholarship, Shanghai Jiao Tong University • Outstanding Graduate, Central South University • Huang Qianheng Scholarship, Central South University 	2023 2022 2021 2021 2021 2016 2014
TALKS	<ul style="list-style-type: none"> • Workshop on Scientific Computing: Algorithms and Modeling, Shanghai Jiao Tong University, 2023. • Doctoral Workshop on Applied Mathematics, Fudan University, 2022. • Invited talk, TM20 Minisymposium, 19th Annual Meeting of the China Society for Industrial and Applied Mathematics. • Invited talk, 4th Peking University Workshop for Outstanding Doctoral Students in Computational and Applied Mathematics and 7th Beijing Graduate Forum on Computational Mathematics. • Student presentation, 2018 Annual Meeting of the Challenge Program on High-Accuracy and High-Resolution Computational Methods. 	
PROFESSIONAL SERVICE	<ul style="list-style-type: none"> • Workshop organization: Workshop on Kinetic and Fluid Equations, 2023. 	
PATENT APPLICATION	A simulation method for determining primary proton dose distributions based on probability density and operator splitting (patent application).	