JIA LIU

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EDUCATION

Southern University of Science and Technology **Shenzhen, China**
Master of Mechanics Sep.2021 - present
- Overall GPA: 3.1/4.0 Average score: 82/100
- Main Courses: Advanced Computational Fluid Mechanics (95), Phononics and Thermal Materials (86), Rarefied Gas Dynamics (90)

Xiangtan University **Xiangtan, China**
Bachelor of Information and Computational Science Sep.2017 – Jun.2021
- Overall GPA: 3.69/4.0 Average score: 88.6/100 Ranking: 3/116
- Main Courses: Numerical Computation Method (98), Data Structures and Algorithms (86), Mathematical Physics Equation (98), Object-oriented programming (92), Finite Element and Finite Difference (85)

PUBLICATIONS

[1] Jia Liu, Chuang Zhang, Haizhuan Yuan, Wei Su*, Lei Wu*. A fast-converging scheme for the Phonon Boltzmann equation with dual relaxation times. *Journal of Computational Physics*, 467 (2022) 111436.
- Propose a general synthetic iterative scheme (GSIS) to tackle the slow-convergence problem of conventional iterative scheme, reducing the iteration numbers by up to three orders of magnitude.

[2] Jia Liu, Lei Wu*. Fast-Converging and Asymptotic-Preserving Simulation of Frequency Domain Thermoreflectance. *Communications in Computational Physics*, 34 (2023) 65-93.

ACADEMIC PROJECTS

Climbing Plan SUSTech, 2022
Project name: Development of high-performance computational solver for multi-scale flow simulation of rarefied gas
- Participating in designing acceleration algorithm for solving governing equations and program implementation.
- Test and optimize overall code performance, and further validate the property under different cases.

Advanced Computational Fluid Mechanics Course Project SUSTech, 2022
- Write a Fortran code to solve the nonlinear Burgers equation using Finite Volume Method with fifth-order WENO.
- Analyze the stabilities and order of accuracy theoretically. Write academic report.

National College Students Innovation and Entrepreneurship Training Plan XTU, 2019
Project name: Research on computable model and efficient algorithm of magnetic field fluidized bed problem
- Study the kinetic Boltzmann equation. Read related papers and explore the numerical method.
- Assist senior students with data processing and English reports writing.

HONORS & AWARDS

- SUSTech Outstanding graduate teaching assistant 2022
- Xiangtan University First Class Scholarship (top 5%, four times) 2017-2021
- Xiangtan University Merit Student (top 5%, four times) 2017-2021
- National Undergraduate Mathematical Contest in Modeling, Hunan area, Second Prize 2019

EXTRA EXPERIENCE

Teaching Assistant Mar.2022-Jul.2022
- Credit 2; Class: 62 postgraduate students;

Oral Presentation in English
- The 8th Asian Symposium on Computational Heat Transfer and Fluid Flow Sep.2021
- The 32nd International Symposium on Rarefied Gas Dynamics Jul.2022

Voluntary Activity

SKILLS

Professional Skills: C++, Fortran, MATLAB, LATEX

English: IELTS: 6.5; CET4: 536; CET6: 473