Shixian Liu

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Research Interests: Micro- and Nanoscale Heat Transfer
Personal Website: https://lyushisyan.github.io/

Education

Bauman Moscow State Technical University, *Ph.D. Candidate* 2023.9 – Present
- Thermal Physics and Theoretical Heat Engineering (CSC International Cooperation Program)

Bauman Moscow State Technical University, *M.Sc.* 2021.9 - 2023.7
- Nuclear Power and Thermal Physics (CSC International Cooperation Program)

Moscow Power Engineering Institute, *B.Sc.* 2019.9 - 2021.7
- Nuclear Power and Thermal Physics (CSC Outstanding Undergraduate International Exchange Program)

North China Electric Power University, *B.Sc.* 2017.9 - 2021.7
- Nuclear Engineering and Nuclear Technology

Academic Achievements

Journal Publications:

1. Liu S., Khvesuk V.I. Temperature Fluctuations in Quantum Dots: Insights from a T3/2 Heat Capacity Model. *Phys. Lett. A*, 2025, **534**, 130261. [Q2] [IF 2.3]
2. Liu S., Yin F., Khvesuk V.I. Investigating Anisotropic Three-Phonon Interactions in Graphene's Thermal Conductivity Using Monte Carlo Method. *Int. J. Thermophys.*, 2025, **46**(2), 22. [Q2] [IF 2.5]
3. Liu S., Barinov A.A., Yin F., Khvesuk V.I. Determination of Thermal Properties of Unsmooth Si Nanowires. *Chin. Phys. Lett.*, 2024, **41**(1), 016301. [Q1] [IF 3.5]
4. Liu S., Yin F., Melikhov V.I., Melikhov O.I. Validation of the STEG code using experiments on Two-Phase flow across horizontal tube bundles. *Nucl. Eng. Des.*, 2022, **399**, 112048. [Q1] [IF 1.9]

Program Patents:

1. **Program for calculating the density of states of phonons in low-dimensional structures**
   Yin F. & Liu S. RU2025613785 Python 2025.02.17
2. **Program for Calculating Phonon Dispersion and Heat Capacity in Graphene and GNRs**
   Liu S. & Barinov A.A. RU2024661690 Matlab 2024.05.21
3. **Program for Solving the Dispersion Relations of Elastic Waves in Nanowires**
   Liu S. & Barinov A.A. RU2023615635 Matlab 2023.04.14

Academic Conferences:

- **2024:** **VI-MMMSEC** (Moscow, Russia); **8-WTT** (Lanzhou, China); **17-MIF** (Minsk, Belarus)
- **2023:** **66-MIPT**, **V-MMMSEC** (Moscow, Russia); **17-AVTIFG** (Novosibirsk, Russia)
- **2022:** **RNKT-8** (Moscow, Russia)

Technical Skills

Computational Skills

- **Programming Languages**: Matlab, Python, Fortran
- **Simulation and Computational Tools**: VASP, QE, GULP, phono3py, ShengBTE, etc.