

Mikhail Tikhonov

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Department of Mathematics

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Education

University of Virginia
PhD, 2020 – 2025. Major : Mathematics
Higher School of Economy
Master's degree, 2020 – 2022.
Major : Mathematics and Mathematical Physics
Lomonosov Moscow State University
Department of Quantum Statistics and Field Theory
Bachelor's degree, 2015 – 2020. Major : Physics

Research interests

exact solutions, analytical methods, integrable probability, random matrices
statistical physics, Ising and Potts models, random field effects, quantum spin systems
rarefied gas dynamics, lattice-like methods

Research

2017 – present **Project:** Lattice Boltzmann Method in rarefied gas dynamics (**written in C**)
Supervisor: prof. M. Timokhin
2019 – 2020 **Project:** Exponential jumps of perturbed GUE corners process (analytical)
Supervisor: prof. L. Petrov
2018 – 2020 **Bachelor's thesis:**
Exact solution for a spin chain with quenched disorder (analytical, **Python**)
Supervisor: prof. G.V. Koval
2018 **Project:** Problems based on Boltzmann equation (**C++ code**)
Supervisor: prof. M. Torrilhon
2017 **Term project:** Light scattering on nanoparticles (**Wolfram Mathematica**)
Supervisor: Dr. Yu. V. Vladimirova
Grade: A

Key Skills

Research, Data analysis, numerical modeling, Python 3 with numpy/scipy/sympy
C and C++, UNIX , Wolfram Mathematica, LaTeX, CUDA, git

Publications

Shock-wave Thickness Influence to the Light Diffraction on a Plane Shock Wave.
Maxim Timokhin, Mikhail Tikhonov, Irina Mursenkova and Irina Znamenskaya. *submitted*
**Parameter symmetry in perturbed GUE corners process.
and reflected drifted Brownian motions**
Leonid Petrov and Mikhail Tikhonov. arXiv:1912.08671
Numerical simulations of micro-channel devices with Lattice Boltzmann method.
Maxim Timokhin and Mikhail Tikhonov. AIP Conference Proceedings.
Vol. 2132. No. 1. AIP Publishing, 2019.

Conferences, visits

Organizing committee at SMISP Conference
27 April – 1 May, everywhere in the world
Scientific visit at University of Virginia
January - February 2020, Charlottesville, VA, USA
Workshop on Classical and Quantum Integrable Systems
July 22-26, 2019, Saint-Peterburg, Russia
31st International Symposium on Rarefied Gas Dynamics
23-27 July 2018, Glasgow, UK
International scientific conference of students and young scientists "Lomonosov"
9-13 April 2018, Moscow, Russia
Internship at mathCCES RWTH
25 Jan – 31 Mar 2018, Aachen, Germany

Teaching experience

Assistant Lecturer
AESC MSU, 2018 – 2020
Lab Assistant
Faculty of physics, 2018 – 2019