

Mikhail Tikhonov

Lomonosov Moscow State University
Faculty of Physics
Department of Quantum Statistics and Field Theory

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Education

Lomonosov Moscow State University

Bachelor's degree, 2015 – present. Major : Physics
GPA: 4.7(out of 5)

University of Virginia

PhD, 2020 – present. Major : Mathematics

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

2019 – present **Project:** Exponential jumps of perturbed GUE corners process (analytical)
Supervisor: prof. L. Petrov
2018 – present **Bachelor's thesis:**
Exact solution for a spin chain with quenched disorder(analytical, **Python**)
Supervisor: prof. G.V. Koval
2017 – present **Project:** Lattice Boltzmann Method in rarefied gas dynamics (**written in C**)
Supervisor: prof. M. Timokhin
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

Exact solution for a spin chain with quenched disorder.

Mikhail Tikhonov and Gennadiy Koval. *in preparation*

Shock-wave Thickness Influence to the Light Diffraction on a Plane Shock Wave.

Maxim Timokhin, Mikhail Tikhonov, Irina Mursenkova and Irina Znamenskaya. *in preparation*

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