

Tatiana Ushakova | Curriculum Vitae

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Education

Moscow Institute of Physics and Technology

Moscow, Russia

BSc candidate in Mathematics and Physics

2016 - 2020

MSc candidate in Mathematics and Physics

2020 - Present

School of Fundamental and Applied Physics, Class of 2022.

Specialization of Quantum Field Theory, String Theory, and Mathematical Physics

Selected coursework: Linear Algebra, Complex Analysis, Equations of Mathematical Physics, Calculus, ODE, Introduction to C, Basics of Operating Systems, Computational Mathematics, Fourier Analysis, Functional Analysis, Statistical Physics, etc.

Advanced courses: Quantum Field Theory, Conformal Field Theory, String Theory, Integrable Models of Quantum Field Theory, etc.

Average Grade: Bachelor: 4.6/5.0, Master: 4.7/5.0

Experience

Work as a research engineer

Landau Institute for Theoretical Physics

Chernogolovka, Russia (remote)

Scientific advisor: Michael Lashkevich, Ph. D.

2021-Present

Research work on the topics related to the expectation values of operators of the Quantum Integrable Sine- and Sinh-Gordon models under the grant at Landau Institute for Theoretical Physics.

- Made analytical and numerical calculations for the development of the perturbation theory (series expansion) near a certain nonzero solution of the Sine-Gordon model
- Performed computations of expectation values of several operators perturbatively in the limit of a small parameter of the theory
- Derived formulas for checking the results obtained in accordance with the known properties of the theory
- Made a comparison of calculations with previously known exact results
- Studied the literature on the topic

Languages

Russian: Native

English: Upper-Intermediate

Spanish: Elementary

Language certificates

TOEFL iBT (English)

December 04, 2021

Reading 26

Listening 25

Speaking 21

Writing 21

Total 93

Computer skills

Programming languages: C, LATEX, Python

Software: Mathematica

Extracurricular activities

Debate club, hiking