

ALEXANDER ZAYTSEV

Tel: +79169811845 • Email: zaitsev136@gmail.com • Moscow, Russia

EDUCATION

2010 – 2016

Specialist degree in Physics,
National Research Nuclear University MEPhI
(Moscow Engineering Physics Institute),
Elementary Particle Physics Department

- » 5.5 years of study, equivalent to a **master's degree**
- » Was granted a Moscow State Scholarship for outstanding academic achievements
- » Graduated with honors, 4.84/5.00 average grade, top of the class
- » Received an award for the best master's thesis in elementary particle physics among the MEPhI students in 2016
- » Thesis title: "Centrality dependence of charged hadron collective flow v_2 and v_3 in Au+Au collisions at $\sqrt{s_{NN}} = 39$ and 62.4 GeV in PHENIX", supervised by Dr. Arkadiy Taranenko

ACADEMIC EXPERIENCE

2016 – 2017

Research assistant
in the MEPhI Relativistic Heavy Ion Group

- » Performed physics data analysis within the PHENIX experiment at RHIC (BNL, USA): probing quark-gluon plasma by studying transverse momenta dependence, centrality dependence and scaling properties of charged hadron collective flow in heavy ion collisions using Fourier analysis
- » Worked on collision symmetry plane reconstruction in the HADES experiment (GSI, Germany). Spent 2 months in Darmstadt working within the GSI HADES group
- » Worked on the selection and formatting of the NA49 experiment data (CERN, Switzerland/France) for further collective flow analysis
- » Performed on-site shift duties on the NA61/SHINE experiment (CERN, Switzerland/France) during three trips to CERN
- » Gave talks at ICPPA-2015 and ICPPA-2016 conferences in Moscow and at the HADES collaboration meeting in 2016 in Paris
- » Provided assistance for undergraduate students in physics data analysis; taught an introductory course on ROOT, a C++ framework for particle physics data analysis

WORK EXPERIENCE

2017 – present

Research and Development Engineer

at Orientir Corporation, a leading Russian company for development and production of ring laser gyroscopes, laser rangefinders and products based on them.

- » Developing algorithms based on theoretical studies to improve accuracy of laser gyrocompasses
- » Conducting field and laboratory experiments and analyzing their results
- » Developing calibration procedures
- » Developing and supporting software used by customers (C#) and laboratory experts (python, mathcad)
- » Increased the accuracy of field gyrocompasses by developing and implementing a movement correction algorithm
- » Improved the performance of laser gyroscopes by implementing an elaborate algorithm for suppressing the effect of wide non-linearity zone
- » Proposed and implemented an online measurement quality monitoring system

PUBLICATIONS

- » A S Zaytsev and I Selyuzhenkov 2017 *J. Phys.: Conf. Ser.* **798** 012064 – Estimates of the collision symmetry planes in HADES experiment at GSI
- » A S Zaytsev 2016 *J. Phys.: Conf. Ser.* **675** 022015 – Scaling properties of collective effects at RHIC

TECHNICAL SKILLS

ROOT, C/C++, Python and its scientific tools (numpy, scipy, matplotlib, pandas, jupyter), C# (Visual Studio, ReSharper, GUI development), Mathcad, Linux, LaTeX, Git, unit testing, distributed computing.

Familiar with FORTRAN, Geant4, machine learning.