

OLEKSANDR VIAZLO

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EDUCATION

Lund University PhD student & High energy physics	<i>2012-present</i>
National Taras Shevchenko University of Kyiv Master of Science in Physics & High energy physics	<i>2010-2012</i>
National Taras Shevchenko University of Kyiv Bachelor of Science in Physics & High energy physics	<i>2006-2010</i>

EXPERIENCE

DESY, Hamburg <i>guest scientist</i>	2008-2012
<ul style="list-style-type: none">· short visits, summing up to about 1.5 years· working on my bachelor and master projects.	

PRESENTATIONS AND POSTERS

- “Search for anomalous production of prompt same-sign lepton pairs and constraints on physics beyond the Standard Model with 8 TeV data”, poster, ATLAS Overview Week 2013
- “Performance study of the Transition Radiation Tracker with the focus on the influence of the active gas-mixture on the hit and track parameters”, poster, Nordic Physics Days 2013
- “Measurement of charm and beauty production in DIS with secondary vertexing in the ZEUS experiment”, presentation, TESHEP 2010.

TECHNICAL STRENGTHS

Operating systems	advanced user of Linux and Windows
Programming languages, advanced	C/C++, bash, Python, AWK
Programming languages, beginner	Fortran, QT4, HTML
Mathematics packages	Matlab, Maple
Codes for simulations of ionizing particle transport	MCNP, FLUKA, GEANT4
Frameworks	expert in ROOT
Parallel Computing	beginner in MPI, OpenMP, CUDA
Other	advanced in LaTeX

RESEARCH EXPERIENCE AND INTERESTS

Beyond Standard Model searches

- Search for anomalous production of prompt same-sign lepton pairs and constraints on physics beyond the Standard Model with 8 TeV data, ATLAS. Main person for electron channel. Presented this analysis as a poster at ATLAS overview week 2013. Paper is in progress.

Simulation and performance of tracking detectors

- Simulation and digitization of Transition Radiation Tracker (TRT), ATLAS. My project is focused on the implementation of Monte Carlo simulation of the Argon-based gas mixture as an active gas in the TRT with the possibility to simulate some of the TRT sectors with Argon-, while the others with Xenon-based mixtures. During 2013, some sectors of the TRT were operated with Argon-based mixture and it is expected to use Argon mixture for future runs as well.
- Studied performance of TRT with Argon- and Xenon-based mixture. Investigated track hit and momentum resolution.
- The Fast Tracker project (FTK), ATLAS. Plan to take part in development of online hardware tracking based on FPGAs.

Heavy flavour physics

- Master and bachelor projects were focused on the measurements of the cross sections for charm and beauty quark jet production in the region $Q^2 > 1000 \text{ GeV}^2$ with ZEUS experiment. The measured cross sections were planned to use to extract F_2^{cc} and F_2^{bb} proton structure functions. Paper is still in progress.

SCHOOLS AND CONFERENCES

- Partikeldagarna (Lund), October 2013
- ATLAS Overview Week (Marrakech, Morocco), October 2013
- CERN School of Computing (Nicosia, Cyprus), August 2013
- Nordic Physics Days (Lund), June 2013
- Terascale Monte Carlo School (DESY, Hamburg), March 2011.
- TESHEP (Romania), July 2010.

AWARDS

- 1st diploma of the “Physicist-2006” Olympiad in Physics, National Taras Shevchenko University of Kyiv, Department of Physics, 2006.