CURRICULUM VITAE

Name **Dr. Tatsiana Klimkovich**

E-mail tklimk@mail.desy.de

Web page www.desy.de/~tklimk

Personal Date and place of birth: 1978, Gomel, Belarus

Education

Hamburg University (03.2002 - 10.2005) Hamburg, Germany
PhD in Particle Physics

PhD Thesis: "MSSM Higgs Boson Production at a Future Linear Collider and Measurement of $F_2^{c\bar{c}}$ and $F_2^{b\bar{b}}$ at Low Q^2 DIS at H1", DESY-THESIS-2005-048

Belarusian State University (09.1995 - 06.2000) Minsk, Belarus
Diploma in Nuclear Physics

Thesis: "Magnetic Field Influence on Induced Quasi-Čerenkov Radiation Generation"

Employment and work experience

Capgemini Engineering Barcelona, Spain
Software Engineer April 2021 – present
Firmware development using C++, Python, google tests. OS: Linux and Windows.

Altran Innovacion S.L. Barcelona, Spain
Software Engineer November 2019 – April 2021
Firmware development using C++, Python, google tests. OS: Linux and Windows.

Max-Planck-Institut für Kernphysik Heidelberg, Germany
Postdoc June 2016 – December 2017
Data analysis at LHCb experiment using GRID (CERN)

Physikalisches Institut, Heidelberg University Germany
Postdoc September 2012 – December 2014
Development of a menu aware data quality monitoring at Tier-0 using database in Atlas experiment (CERN). Coordination of monitoring activities for fast hardware track finder (FTK). Participation in soft lepton tagger development based on multivariate techniques. Contribution to the development of RTT (Run Time Tester) monitoring for FTK. Participation in FTK performance studies: MET reconstruction using FTK tracks in particle flow algorithm. Data analysis using GRID

RWTH Aachen University Aachen, Germany
Postdoc May 2008 – September 2010
Physics data analysis within the Compact Muon Solenoid (CMS) experiment at CERN using GRID: search for new physics using quantum chromodynamics dijet angular distributions and comparison of different jet reconstruction algorithms at CMS. Participation in validation study of track jets. Contribution to the development of visual physics analysis project VISPA in conjunction with the Physics eXtension Library PXL (C++ toolkit for high energy physics analysis). Connection of VISPA to CMS experiment and International Linear Collider. Supervision of the project "Structure of the proton, the photon and colour singlet exchange". Teaching duties: assistant for exercises "Experimental physics I-IV", "Elementary particle physics I"; supervision of student seminars; replacement for lectures.

LIP Laboratory Coimbra, Portugal
Postdoc November 2007 – March 2008
Development of b-tagging techniques in ATLAS experiment (CERN) using data mining techniques

DESY Hamburg, Germany
Fellow November 2005 – October 2007
Work on vertex detector R&D for a future Linear Collider. Participation in pixel beam telescope development within EUDET project: simulation and alignment study, analysis framework development. Heavy flavour analysis (D meson reconstruction) using *ep* data at H1 experiment at HERA

DESY, Hamburg University Hamburg, Germany
PhD Student March 2002 – October 2005
Work on MSSM Higgs boson pair production at a future Linear Collider. Measurements of inclusive charm and beauty cross sections, $F_2^{c\bar{c}}$ and $F_2^{b\bar{b}}$ at low Q^2 in e^+p collisions at HERA, using a method based on the distance of closest approach of tracks to the production vertex, using H1 vertex detector. Teaching duties: assistant for "Praktikum I" for natural sciences at Hamburg University and assistant for exercises "Physics for Engineers II" at Technical University Hamburg-Harburg

DESY Hamburg, Germany
Guest Scientist December 2001 – February 2002
Work on MSSM Higgs boson pair production at a future Linear Collider.

DESY Zeuthen, Germany
Summer Student July 2001 – September 2001
Work on Standard Model Higgs boson production at L3 experiment (CERN).

Belarusian State University Minsk, Belarus
Institute of Nuclear Problems
Junior Researcher November 2000 – November 2001

Study of double deflection of deuterons passing through a target of light nuclei.

Belarusian State University Minsk, Belarus
Institute of Nuclear Problems

Junior Researcher September 1999 – June 2000
Theoretical research on free electron laser operation. The derivation of dispersion equation describing beam instability in arbitrary spatial periodic medium was done. The dispersion equation for quasi-Čerenkov instability of electron beam in guiding magnetic field under multi-wave dynamic diffraction conditions was derived and analysed.

Adani International Minsk, Belarus
Junior Researcher March 1998 – January 2000
Market investigation for X-ray medical devices. Participation in international exhibitions of medical equipment. Participation in the development of X-ray medical systems, in particular digital fluorographs. Measurement of different characteristics, e.g. resolution of X-ray detectors. Data analysis.

NauchSoft Minsk, Belarus
Scientific Department

Scientific Expert October 1998 – March 1999
Participation in the development of a patent database for the car industry.

Belarusian State University Minsk, Belarus
Electronics Laboratory, Nuclear physics department

Junior Researcher March 1997 – May 1997
Study of different properties of electronic devices. Control and reparation of electronic devices.

Publications

Design of a hardware track finder (Fast Tracker) for the ATLAS trigger, V. Cavaliere et al., 2016, JINST 11 (2016) no.02, C02056, available from http://inspirehep.net/record/1422721

The ATLAS fast tracker processor design, G. Volpi et al., 2015, PoS VERTEX2015 (2015) 040, available from http://inspirehep.net/record/1413646

A Development Environment for Visual Physics Analysis, H.-P. Bretz et al., 2012 JINST 7 T08005, arXiv:1205.4912, available from http://arxiv.org/pdf/1205.4912v1.pdf

Visual physics data analysis in the Web browser, M. Brodski, M. Erdmann, R. Fischer, A. Hinzmann, T. Klimkovich, D. Klingebiel, M. Komm, G. Muller, J. Steggemann, T. Winchen, proceedings for CHEP 2010, J.Phys.Conf.Ser. 331 (2011) 072056

Comparison of the hadronic structures in structure function measurements of the proton, photon and diffractive exchange, D. van Asseldonk, M. Erdmann, T. Klimkovich, M. Nienhaus, proceedings for DIS 2010, Florence, April 2010, PoS(DIS 2010) 042, available from http://pos.sissa.it/archive/conferences/106/042/DIS%202010_042.pdf

Visualization of the CMS python configuration system, M. Erdmann, R. Fischer, B. Hegner, A. Hinzmann, T. Klimkovich, G. Muller, J. Steggemann, proceedings for CHEP 09, J.Phys.Conf.Ser. 219 (2010) 042008

Visual physics analysis: Applications in high energy and astroparticle physics, M. Brodski, M. Erdmann, R. Fischer, A. Hinzmann, T. Klimkovich, D. Klingebiel, M. Komm, G. Muller, T. Munzer, J. Steggemann T. Winchen, proceedings for ACAT 2010, PoS ACAT2010 (2010) 064

Visual Physics Analysis VISPA, O. Actis, M. Brodski, M. Erdmann, R. Fischer, A. Hinzmann, T. Klimkovich, G. Müller, T. Münzer, M. Plum, J. Steggemann, T. Winchen, proceedings for CHEP 2009 (Computing in High Energy Physics), Prague, March 2009, Journal of Physics: Conference Series 219 (2010) 042041, available from http://iopscience.iop.org/1742-6596/219/4/042041

VISPA: Visual physics analysis on Linux, Mac OS X and Windows, T. Winchen, M. Erdmann, M. Brodski, R. Fischer, A. Hinzmann, T. Klimkovich, G. Muller, T. Munzer, J. Steggemann, proceedings for EPS-HEP 2009, PoS EPS-HEP2009 (2009) 447

VISPA: a Novel Concept for Visual Physics Analysis, O. Actis, M. Erdmann, R. Fischer, A. Hinzmann, M. Kirsch, T. Klimkovich, G. Mueller, M. Plum, J. Steggemann, proceedings for ACAT 2008 (Workshop on Advanced Computing and Analysis Techniques in Physics Research), Erice, Sicily, 2008, PoS(ACAT08)070, available from http://pos.sissa.it//archive/conferences/070/070/ACAT08_070.pdf

Visual Physics Analysis (VISPA) - Concepts and First Applications, O. Actis, M. Erdmann, R. Fischer, A. Hinzmann, M. Kirsch, T. Klimkovich, G. Müller, M. Plum, J. Steggemann, proceedings for 34th International Conference on High Energy Physics, Philadelphia, 2008, arXiv:0810.3609

EUTelescope: tracking software, A. Bulgheroni, T. Klimkovich, P. Roloff, A.F. Zarnecki, EUDET-Memo-2007-20, 2007, available from http://www.eudet.org/e26/e28

Simulation study for EUDET pixel beam telescope using ILC software, T. Klimkovich, proceedings for Linear Collider Workshop 2007, Hamburg, eConf C0705302 (2007) SIM29, available from http://lcws07.desy.de

Simulation study for the EUDET pixel beam telescope using ILC

software, T. Klimkovich, EUDET-Memo-2007-06, 2007, available from http://www.eudet.org/e26/e28

Measurement of $F_2^{c\bar{c}}$ and $F_2^{b\bar{b}}$ at Low and High Q^2 using the H1 Vertex Detector, T. Klimkovich, PAIP Conf.Proc.792:895-898, 2005. Also in "Madison 2005, Deep inelastic scattering" 895-898 proceedings for DIS, available from http://www.hep.wisc.edu/dis05/

Contribution to the paper **"Measurement of $F_2^{c\bar{c}}$ and $F_2^{b\bar{b}}$ at Low Q^2 using the H1 Vertex Detector at HERA"**, Eur.Phys.J. C45: 23-33 (2006), hep-ex/0507081

MSSM Higgs bosons at a future linear collider. Heavy quark production at HERA, T. Klimkovich, Eur.Phys.Journal. C40 S2:1-8, 2005

Study of Higgs boson pair production at Linear Collider, K. Desch, T. Klimkovich, T. Kuhl, A. Raspereza, Linear Collider Note LC-PHSM-2004-006, 2004, hep-ph/0406229

Study of heavy neutral SUSY Higgs bosons at TESLA, K. Desch, T. Klimkovich, T. Kuhl, A. Raspereza, Prepared for International Conference on Linear Colliders (LCWS 04), Paris, France, 19-24 Apr 2004. Published in "Paris 2004, Linear colliders, vol. 1", 185-188

Extended joint ECFA/DESY study on physics and detector for a linear e^+e^- collider. Proceedings, Summer Colloquium, Amsterdam, Netherlands, April 4, 2003. K. Ackermann et al. DESY-PROC-2004-01, DESY-04-123, DESY-04-123G, Mar 2004. 140pp. Prepared for 4th ECFA / DESY Workshop on Physics and Detectors for a 90 GeV to 800 GeV Linear e^+e^- Collider, Amsterdam, The Netherlands, 1-4 Apr 2003

LHCb Collaboration: 104 publications
CMS Collaboration: 155 publications
Atlas Collaboration: 3 publications
ILC Collaboration: 3 publications
ILD Collaboration: 1 publication
H1 Collaboration: 47 publications

List of talks

FTK: Fast TracKer in Atlas, Max-Planck-Institut für Kernphysik, Heidelberg, April 2016

Online Software for FTK ATLAS TDAQ Week, Copenhagen, July 2014

FTK Status ATLAS-Heidelberg Meeting, ATLAS-Heidelberg Meeting, Trifels, June 2014

Menu Aware DQ Monitoring, ATLAS-Heidelberg Meeting, Trifels, June 2014

Online Software for FTK Atlas Upgrade Week, April 2014

Menu Aware Trigger Monitoring at Tier-0, Trigger General Meeting, CERN, September 2013

Menu Aware Trigger Monitoring at Tier-0, Trigger Core Software Meeting, CERN, September 2013

FTK: Fast TracKer for Atlas, ATLAS-Heidelberg Meeting, Trifels, June 2013

Comparison of the Hadronic Structures in Structure Function Measurements of the Proton, Photon, Diffractive Exchange and Pion, Seminar at Physikalisches Institut, University of Heidelberg, July 2012

Comparison of the Hadronic Structures in Structure Function Measurements of the Proton, Photon and Diffractive Exchange, DIS 2010, Florence, April 2010

CMS and ILC Applications within the Visual Physics Analysis Project, 3rd Annual Workshop of the Helmholtz Alliance "Physics at the Terascale", DESY Hamburg, November 2009

Visual Physics Analysis VISPA, Poster, CHEP 2009 (Computing in High Energy Physics), Prague, March 2009

PXL 2.1: Toolkit for Physics Analyses in the Elementary Particle Physics, DPG Tagung, München, March 2009

VISPA: a Novel Concept for Visual Physics Analysis, ACAT 2008 (Workshop on Advanced Computing and Analysis Techniques in Physics Research), Erice, Sicily, November 2008

VISPA: Visual Physics Analysis Environment, DESY Computing Seminar, October 2008

Pixel beam telescope for the ILC, Café com Física, University of Coimbra, December 2007

Simulation study for EUDET pixel beam telescope using ILC software, Linear Collider Workshop 2007, Hamburg, May/June 2007

Simulation of EUDET Pixel Beam Telescope using ILC Software, ECFA Software and Physics Simulation Phone Meeting, October 2006

From HERA to LHC: Measurement of Heavy Flavour Contribution to Proton Structure Functions, Seminar, LAPP Annecy, December 2006

Measurement of $F_2^{c\bar{c}}$ and $F_2^{b\bar{b}}$ at Low and High Q^2 at H1, Seminar, Institute of Nuclear Physics, Krakow, May 2006

Measurement of $F_2^{c\bar{c}}$ and $F_2^{b\bar{b}}$ at Low and High Q^2 using H1 Vertex Detector, DIS 2005, Madison, April 2005

EMI Effects at TTF, ILC@DESY General Project Meeting, April 2005

Erzeugung Schwerer Quarks in Tief-Inelastischer Streuung (DIS) bei H1, German Physical Society spring meeting, Berlin, March 2005

MSSM Higgs Bosons at Future Linear Collider. Heavy Quarks at H1, International School of Subnuclear Physics, Erice, Sicily, August 2004

Untersuchung von MSSM Higgs-Bosonen bei e^+e^- Linear Beschleuniger TESLA, German Physical Society spring meeting, Mainz, March 2004

Untersuchung von MSSM Higgs-Bosonen bei TESLA, 35th Autumn School for High Energy Physics, Maria Laach, Germany, September 2003

MSSM Higgs Boson Pair Production at 800 GeV and Final Results for 500 GeV, Hamburg-Zeuthen Linear Collider Meeting, Zeuthen, September 2003

Analysis of the Process $e^+e^- \to HA \to b\bar{b}b\bar{b}$ at TESLA, ECFA/DESY Linear Collider Workshop, Amsterdam, April 2003

Experimental Study of Higgs Bosons in MSSM at TESLA, German Physical Society spring meeting, Aachen, March 2003

Analysis of the Process $e^+e^- \to HA \to b\bar{b}b\bar{b}$ at TESLA, Intermediate Higgs meeting, CERN, February 2003

Experimental Study of Higgs Bosons in CP-violating MSSM Scenario at TESLA, ECFA/DESY Workshop, Prague, November 2002

Experimental Study of Higgs Bosons in CP-Violating MSSM Scenario at TESLA, INTAS Workshop, Baikal Lake, Russia, July 2002

Schools

International School of Subnuclear Physics Erice, Sicily
Participant August – September 2004

Autumn School for High Energy Physics Maria Laach
St.Benedict Monastery Maria Laach, Eifel, Germany
Participant September 2003

Summer School in Particle Physics DESY Zeuthen, Germany
Participant July 2001 – September 2001
Work on Standard Model Higgs boson production at L3 (CERN).

Awards "New Talents" Award for an Original Work in Experimental Physics, International School of Subnuclear Physics, Erice, Sicily, August-September 2004

Computer skills
Operating systems: Unix (Linux), MS Windows
MS office
GRID computing
Analysis software: Root
Simulation software: Geant
Build software: Make, CMake
Programming languages: C/C++, Python, SQL, Fortran, Pascal, Assembler for microcontrollers, HTML, Shell script
Databases: Oracle, MySQL
Versioning software: CVS, SVN, Git
Documentation software: Doxygen
Document preparation software: TeX, LaTeX, emacs, nano, LibreOffice

Languages
Russian: native
Belarusian: native
English : fluent
German: fluent
Spanish: good
Portuguese: good
Catalan: basic knowledge
French: basic knowledge