

**XXX Cracow EPIPHANY
Conference on Precision
Physics at High Energy
Colliders**

Report of Contributions

Contribution ID: 1

Type: **not specified**

Towards a NLO parton shower: Gauge choice

Monday, January 8, 2024 9:15 AM (30 minutes)

Presenter: NAGY, Zoltan

Session Classification: QCD/MC

Contribution ID: 2

Type: **not specified**

High precision prediction for multi-scale processes at the LHC

Monday, January 8, 2024 10:15 AM (30 minutes)

Presenter: PONCELET, Rene (IFJ PAN Krakow)

Session Classification: QCD/MC

Contribution ID: 3

Type: **not specified**

Precision Physics at High Energy Colliders and Low Energy Connections

Monday, January 8, 2024 9:45 AM (30 minutes)

Presenter: GLUZA, Janusz (U. Silesia)

Session Classification: QCD/MC

Contribution ID: 4

Type: **not specified**

Precision measurements of the Standard Model with the ATLAS Experiment

Monday, January 8, 2024 11:15 AM (30 minutes)

Presenter: YU, Yi (University of Science and Technology of China (CN))

Session Classification: SM

Contribution ID: 5

Type: **not specified**

SM electroweak highlights from CMS

Monday, January 8, 2024 11:45 AM (30 minutes)

Presenter: SZLEPER, Michal (National Centre for Nuclear Research (PL))

Session Classification: SM

Contribution ID: 6

Type: **not specified**

Overview of LHCb results

Monday, January 8, 2024 12:15 PM (30 minutes)

Presenter: OLDEMAN, Rolf (Universita e INFN, Cagliari (IT))

Session Classification: SM

Contribution ID: 7

Type: **not specified**

Recent results from Belle and Belle II

Monday, January 8, 2024 12:45 PM (30 minutes)

Presenter: GAZ, Alessandro

Session Classification: SM

Contribution ID: 8

Type: **not specified**

Spin effects in tau-lepton pair induced by anomalous magnetic and electric dipole moments

Monday, January 8, 2024 2:45 PM (30 minutes)

Presenter: KORCHIN, Alexander

Session Classification: Heavy Flavour

Contribution ID: 9

Type: **not specified**

Monte Carlos for tau lepton Standard Model and New Physics signatures

Monday, January 8, 2024 3:15 PM (30 minutes)

Presenter: BANERJEE, Swagato (University of Louisville (US))

Session Classification: Heavy Flavour

Contribution ID: **10**

Type: **not specified**

Tau physics at Belle and Belle II

Monday, January 8, 2024 3:45 PM (30 minutes)

Presenter: LAUTENBACH, Klemens

Session Classification: Heavy Flavour

Contribution ID: 11

Type: **not specified**

Back-to-back dijets in DIS at small x

Monday, January 8, 2024 4:45 PM (30 minutes)

Presenter: STEBEL, Tomasz (Institute of Theoretical Physics Jagiellonian University)

Session Classification: QCD/MC

Contribution ID: 12

Type: **not specified**

On hybrid factorization at the NLO from collinear amplitudes

Monday, January 8, 2024 5:15 PM (30 minutes)

Presenter: MOTYKA, Leszek

Session Classification: QCD/MC

Contribution ID: 13

Type: **not specified**

Progress in implementing the kinematical constraint into the small-x JIMWLK evolution equation

Monday, January 8, 2024 5:45 PM (30 minutes)

Presenter: KORCYL, Piotr (Jagiellonian University)

Session Classification: QCD/MC

Contribution ID: 14

Type: **not specified**

Higgs boson measurements at CMS

Tuesday, January 9, 2024 9:00 AM (30 minutes)

Presenter: BLUJ, Michal (National Centre for Nuclear Research (PL))

Session Classification: Higgs/Future

Contribution ID: 15

Type: **not specified**

Precision measurements of Higgs boson properties with the ATLAS experiment

Tuesday, January 9, 2024 9:30 AM (30 minutes)

Presenter: JAVURKOVA, Martina (University of Massachusetts (US))

Session Classification: Higgs/Future

Contribution ID: 16

Type: **not specified**

Search for exotic decays of the Higgs boson into long-lived particles with jet pairs in the final state at future colliders

Tuesday, January 9, 2024 10:00 AM (30 minutes)

Presenter: KUCHARCZYK, Marcin (Polish Academy of Sciences (PL))

Session Classification: Higgs/Future

Contribution ID: 17

Type: **not specified**

Correctly counting the number of light neutrino types with photons

Tuesday, January 9, 2024 10:30 AM (30 minutes)

Presenter: WILSON, Graham (The University of Kansas (US))

Session Classification: Higgs/Future

Contribution ID: **18**

Type: **not specified**

Precise measurement of light-quark electroweak couplings at future colliders

Tuesday, January 9, 2024 11:30 AM (30 minutes)

Presenter: MEKALA, Krzysztof

Session Classification: Future

Contribution ID: **19**

Type: **not specified**

Gamma Factory and precision physics at LHC

Tuesday, January 9, 2024 12:00 PM (30 minutes)

Presenter: PLACZEK, Wiesiek (Jagiellonian University (PL))

Session Classification: Future

Contribution ID: 20

Type: **not specified**

Generators: Back to the Future

Tuesday, January 9, 2024 12:30 PM (30 minutes)

Presenter: SIODMOK, Andrzej Konrad (Jagiellonian University (PL))

Session Classification: Future

Contribution ID: 21

Type: **not specified**

Prospects for single- and di-Higgs measurements at the HL-LHC (ATLAS and CMS)

Tuesday, January 9, 2024 1:00 PM (30 minutes)

Presenter: ZHANG, Lei (Nanjing University (CN))

Session Classification: Future

Contribution ID: 22

Type: **not specified**

The ePIC experiment physics program overview

Tuesday, January 9, 2024 3:00 PM (30 minutes)

Presenter: PRZYBYCIEN, Mariusz (AGH University of Krakow (PL))

Session Classification: Heavy Ions

Contribution ID: 23

Type: **not specified**

Exploring the equilibration time of the QGP with jet quenching

Tuesday, January 9, 2024 3:30 PM (30 minutes)

Presenter: ADHYA, Souvik Priyam (Institute of Nuclear Physics, Polish Academy of Sciences)

Session Classification: Heavy Ions

Contribution ID: 24

Type: **not specified**

Performance of the ATLAS L1 TRT trigger in heavy-ion collisions at the LHC

Thursday, January 11, 2024 12:00 PM (15 minutes)

Presenter: RYBCZYNSKI, Pawel (AGH University of Krakow (PL))

Session Classification: Young

Contribution ID: 25

Type: **not specified**

QCD evolution equations and splitting functions

Wednesday, January 10, 2024 9:00 AM (30 minutes)

Presenter: MOCH, Sven-Olaf

Session Classification: QCD/MC

Contribution ID: 26

Type: **not specified**

Parton Distribution Functions and Their Impact on Precision of the Current Theory Calculations

Wednesday, January 10, 2024 9:30 AM (30 minutes)

Presenter: UBIALI, Maria (University of Cambridge (GB))

Session Classification: QCD/MC

Contribution ID: 27

Type: **not specified**

Top quark in POWHEG Generator

Wednesday, January 10, 2024 10:00 AM (30 minutes)

Presenter: JEZO, Tomas (WWU ITP)

Session Classification: QCD/MC

Contribution ID: 28

Type: **not specified**

Recent developments in the GENEVA event generator

Wednesday, January 10, 2024 11:00 AM (30 minutes)

The GENEVA method provides a means to combine resummed and fixed order calculations at state-of-the-art accuracy with a parton shower program. GENEVA NNLO+PS generators have now been constructed for a range of colour-singlet production processes and using a range of different resolution variables. I will review the GENEVA framework and then describe several recent advancements, such as the use of jet veto resummation at NNLL' accuracy and the ongoing extension to processes including jets in the final state.

Presenter: LIM, Matthew (University of Sussex)

Session Classification: QCD/MC

Contribution ID: 29

Type: **not specified**

YFS for Future Lepton Colliders

Wednesday, January 10, 2024 11:30 AM (30 minutes)

Presenter: PRICE, Alan

Session Classification: QCD/MC

Contribution ID: **30**

Type: **not specified**

The KrkNLO method for parton shower matching

Wednesday, January 10, 2024 12:00 PM (30 minutes)

Presenter: WHITEHEAD, James

Session Classification: QCD/MC

Contribution ID: 31

Type: **not specified**

Recent developments in Transverse Momentum Dependent parton densities and associated parton showers

Wednesday, January 10, 2024 12:30 PM (30 minutes)

Presenter: JUNG, Hanes (DESY)

Session Classification: QCD/MC

Contribution ID: 32

Type: **not specified**

Methodology of precision Monte Carlo development

Wednesday, January 10, 2024 2:30 PM (40 minutes)

Presenter: WAS, Zbigniew Andrzej (Polish Academy of Sciences (PL))

Session Classification: Staszek

Contribution ID: 33

Type: **not specified**

Staszeck Jadach: Precision measurements at LEP and FCC-ee

Wednesday, January 10, 2024 3:10 PM (40 minutes)

Presenter: BLONDEL, Alain (Universite de Geneve (CH))

Session Classification: Staszek

Contribution ID: 34

Type: **not specified**

Staszek Jadach: the first FCC-ee precision measurement with real data

Wednesday, January 10, 2024 3:50 PM (40 minutes)

Presenter: JANOT, Patrick (CERN)

Session Classification: Staszek

Contribution ID: 35

Type: **not specified**

The discovery of the Standard Model: a subjective stroll

Wednesday, January 10, 2024 5:00 PM (40 minutes)

Presenter: HEUER, Rolf (Deutsches Elektronen-Synchrotron (DE))

Session Classification: Staszek

Contribution ID: 36

Type: **not specified**

YFS Exponentiation - Gate to Precision Accelerator Physics Measurements

Wednesday, January 10, 2024 5:40 PM (40 minutes)

Presenter: WARD, Bennie

Session Classification: Staszek

Contribution ID: 37

Type: **not specified**

Anomalies and precisions : latest CMS B-physics highlights

Friday, January 12, 2024 9:00 AM (30 minutes)

Presenter: ALIBORDI, Muhammad (University of Warsaw)

Session Classification: Heavy Flavour

Contribution ID: 38

Type: **not specified**

Measurements of the Charm mixing and CP violation parameter γ_{CP} at LHCb

Thursday, January 11, 2024 4:15 PM (15 minutes)

Presenter: ANELLI, Alessia (Universita & INFN, Milano-Bicocca (IT))

Session Classification: Young

Contribution ID: 39

Type: **not specified**

Vcb and Vub measurements at Belle and Belle II

Friday, January 12, 2024 9:30 AM (30 minutes)

Presenter: BAUER, Moritz (KIT - Karlsruhe Institute of Technology (DE))

Session Classification: Heavy Flavour

Contribution ID: 40

Type: **not specified**

Exclusive bremsstrahlung of one and two photons in pp collisions

Friday, January 12, 2024 10:30 AM (30 minutes)

Presenter: SZCZUREK, Antoni

Session Classification: QCD/MC

Contribution ID: 41

Type: **not specified**

Computing multi-leg scattering amplitudes using light-cone actions

Friday, January 12, 2024 11:00 AM (30 minutes)

Presenter: KOTKO, Piotr (AGH UST)

Session Classification: QCD/MC

Contribution ID: 42

Type: **not specified**

Wilson line-based action for gluodynamics at the classical and quantum level

Friday, January 12, 2024 11:30 AM (30 minutes)

Presenter: KAKKAD, Hiren

Session Classification: QCD/MC

Contribution ID: 43

Type: **not specified**

Production of charm and neutrinos in far-forward experiments at the LHC

Friday, January 12, 2024 12:00 PM (30 minutes)

Presenter: MACIULA, Rafal

Session Classification: QCD/MC

Contribution ID: 44

Type: **not specified**

Precise calculations for decays of Higgs bosons in extended Higgs sectors

Thursday, January 11, 2024 9:00 AM (30 minutes)

Presenter: SAKURAI, Kodai (Tohoku University)

Session Classification: BSM

Contribution ID: 45

Type: **not specified**

Entanglement entropy and structure of proton

Presenter: KUTAK, Krzysztof (Instytut Fizyki Jadrowej Polskiej Akademii Nauk)

Session Classification: BSM

Contribution ID: 46

Type: **not specified**

Impact parameter dependence of dilepton production: Wigner function approach and the role of photon polarizations

Presenter: SCHAEFER, Wolfgang

Session Classification: BSM

Contribution ID: 47

Type: **not specified**

Constraining neutrino models predictions

Thursday, January 11, 2024 5:00 PM (15 minutes)

Presenter: ZIEBA, Szymon

Session Classification: Young

Contribution ID: 48

Type: **not specified**

Environment for particle accelerator conditions data used by the CMS experiment at CERN

Thursday, January 11, 2024 12:15 PM (15 minutes)

Presenter: CHYCZYNSKI, Jan Krzysztof (AGH University of Krakow (PL))

Session Classification: Young

Contribution ID: 49

Type: **not specified**

Level-1 Muon Trigger of the CMS experiment

Thursday, January 11, 2024 11:15 AM (15 minutes)

Presenter: KOMUDA, Rafal (University of Warsaw (PL))

Session Classification: Young

Contribution ID: 50

Type: **not specified**

CP violation in charm meson decays

Thursday, January 11, 2024 4:30 PM (15 minutes)

Presenter: CHERNOV, Aleksei (Polish Academy of Sciences (PL))

Session Classification: Young

Contribution ID: 51

Type: **not specified**

Possibilities of light-by-light scattering measurement in FoCal detector

Thursday, January 11, 2024 4:45 PM (15 minutes)

Presenter: JUCHA, Paweł (Institute of Nuclear Physics Polish Academy of Sciences)

Session Classification: Young

Contribution ID: 52

Type: **not specified**

Alignment of the ATLAS-ALFA detectors

Thursday, January 11, 2024 11:30 AM (15 minutes)

Presenter: BASHIRI, Saleh (Polish Academy of Sciences (PL))

Session Classification: Young

Contribution ID: 53

Type: **not specified**

Alignment of the ATLAS-AFP detectors

Thursday, January 11, 2024 11:45 AM (15 minutes)

Presenter: ÖZTÜRK, Ferhat (IFJ PAN Cracow (PL))

Session Classification: Young

Contribution ID: 54

Type: **not specified**

Novel approach to measure quark/gluon jets at the LHC

Thursday, January 11, 2024 2:00 PM (15 minutes)

Presenter: BARON, Petr (Palacky University (CZ))

Session Classification: Young

Contribution ID: 55

Type: **not specified**

Markov Chain Monte Carlo Methods: An Alternative Approach for Nuclear PDF Determination

Thursday, January 11, 2024 2:15 PM (15 minutes)

Presenter: DERA KHSHANIAN, Nasim (IFJ PAN)

Session Classification: Young

Contribution ID: 56

Type: **not specified**

How to find charged Higgs in ATLAS data. The MVA approach

Thursday, January 11, 2024 3:00 PM (15 minutes)

Presenter: ZAK, Zuzanna Katarzyna (Polish Academy of Sciences (PL))

Session Classification: Young

Contribution ID: 57

Type: **not specified**

NLO for hybrid kT-factorization

Thursday, January 11, 2024 2:30 PM (15 minutes)

Presenter: ZIARKO, Grzegorz (Instytut fizyki jądrowej PAN w Krakowie)

Session Classification: Young

Contribution ID: 58

Type: **not specified**

Probing Gluon Saturation in Photon+Jet Production in pp and pPb Collisions

Thursday, January 11, 2024 2:45 PM (15 minutes)

Presenter: GANGULI, Ishita (AGH)

Session Classification: Young

Contribution ID: 59

Type: **not specified**

Monte Carlo studies of lepton flavor universality violating $B \rightarrow h\tau l$ decays at Belle and Belle2

Thursday, January 11, 2024 4:00 PM (15 minutes)

Presenter: UR REHMAN, Junaid

Session Classification: Young

Contribution ID: **60**

Type: **not specified**

Entanglement entropy and structure of proton

Tuesday, January 9, 2024 4:30 PM (30 minutes)

Presenter: KUTAK, Krzysztof (Instytut Fizyki Jadrowej Polskiej Akademii Nauk)

Session Classification: SM

Contribution ID: 61

Type: **not specified**

Impact parameter dependence of dilepton production: Wigner function approach and the role of photon polarizations

Tuesday, January 9, 2024 5:00 PM (30 minutes)

Presenter: SCHAEFER, Wolfgang

Session Classification: SM

Contribution ID: 62

Type: **not specified**

Next-to-leading power correction to event shape variables.

Presenter: Mr MISHRA, Shubham (IIT Hyderabad)

Session Classification: SM

Contribution ID: **63**

Type: **not specified**

Dark Z boson and the W boson mass anomaly

Thursday, January 11, 2024 9:30 AM (30 minutes)

Presenter: ENOMOTO, Kazuki

Session Classification: BSM

Contribution ID: **64**

Type: **not specified**

Tau anomalous magnetic moment measurements

Thursday, January 11, 2024 10:00 AM (30 minutes)

Presenter: VOLKOTRUB, Yuriy (Jagiellonian University)

Session Classification: BSM

Contribution ID: 65

Type: **not specified**

D* polarisation measurements in semitauonic B-meson decays at Belle and Belle II experiments – model independent approach.

Thursday, January 11, 2024 3:45 PM (15 minutes)

Presenter: KALETA, Mateusz (INP PAS)

Session Classification: Young

Contribution ID: 66

Type: **not specified**

HL-LHC Optics - Feasibility Studies for: ATLAS, ALICE and LHCb

Thursday, January 11, 2024 11:00 AM (15 minutes)

Presenter: PATEL, Pragati (Polish Academy of Sciences (PL))

Session Classification: Young