Low-x 2025

Report of Contributions

https://indico.cern.ch/e/1490864

Contribution ID: **1** Type: **not specified**

The LHCspin project

The goal of LHCspin is to develop, in the next few years, innovative solutions and cutting-edge technologies to access spin physics in high-energy and high-intensity collisions of the LHC beam against a polarized fixed target.
This ambitious task poses its basis on the recent success of SMOG2, the unpolarized gas target installed in front of the LHCb spectrometer. SMOG2, already itself a unique project, will allow to carefully study the dynamics of the beam-target system, and clarify the potentiality for an innovative physics program at the LHC.
The forward geometry of the LHCb spectrometer (2<□<5) is perfectly suited for the reconstruction of particles produced in fixed-target collisions. This configuration, with center-of-mass energies ranging from 115 GeV in pp interactions to 72 GeV in collisions with nuclear beams, allows to cover a wide backward rapidity region, including the poorly explored high-x regime, with unique probes.
With LHCspin, LHCb will become the first experiment delivering simultaneously unpolarized beam-beam collisions at √s=14 TeV and both polarized and unpolarized beam-target collisions.
The status of the project is presented along with a selection of physics opportunities.

Author: SANTIMARIA, Marco (INFN e Laboratori Nazionali di Frascati (IT))

Presenter: SANTIMARIA, Marco (INFN e Laboratori Nazionali di Frascati (IT))

Contribution ID: **2** Type: **not specified**

Two- and three-particle Bose-Einstein correlations in small collision systems at LHCb

The new results on three-pion Bose-Einstein correlations measured with the sample of proton-proton collisions recorded at the centre-of-mass energy of $\sqrt{s}$ = 7 TeV will be presented, being the first study of three-particle Bose-Einstein correlations measured in the forward region provided by the LHCb detector. The results are interpreted within the core-halo model for the first time in proton-proton collisions. Together with previous LHCb results on two-pion Bose–Einstein correlations measured for the first time in the forward rapidity region at LHC energies, it confirms the observation of collective phenomena in the small collision systems.

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

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

Contribution ID: **3** Type: **not specified**

Low-x perspective on twist decomposition of the proton structure functions

We discuss a twist decomposition of the proton structure functions within the frameworks of the Balitsky-Fadin-Kurayev-Lipatov and Balitsky-Kovchegov equations and argue that in both cases the higher twist effects are strongly suppressed. This implies that unitarization effects of high energy scattering amplitudes are mostly the leading twist effect.

Authors: MOTYKA, Leszek; SADZIKOWSKI, Mariusz

Presenter: SADZIKOWSKI, Mariusz

Contribution ID: **5** Type: **not specified**

Computation of NLO diffractive structure functions for DIS

We compute the $q\bar{q}g$ part of the NLO diffractive structure functions for deep-inelastic scattering using quasi Monte Carlo methods and compare to LO results.

Author: KAMPSHOFF, Mats (The University of Kansas)

Presenter: KAMPSHOFF, Mats (The University of Kansas)

Contribution ID: **6** Type: **not specified**

Overview of ATLAS forward proton detectors: status, performance and new physics results

A key focus of the physics program at the LHC is the study of head-on proton-proton collisions. However, an important class of physics can be studied for cases where the protons narrowly miss one another and remain intact. In such cases, the electromagnetic fields surrounding the protons can interact producing high-energy photon-photon collisions. Alternatively, interactions mediated by the strong force can also result in intact forward scattered protons, providing probes of quantum chromodynamics (QCD). In order to aid identification and provide unique information about these rare interactions, instrumentation to detect and measure protons scattered through very small angles is installed in the beam pipe far downstream of the interaction point.
We describe the ATLAS Forward Proton AFP Detectors, including their performance to date, covering Tracking and Time-of-Flight Detectors as well as the associated electronics, trigger, readout, detector control and data quality monitoring. Finally, a glimpse on the newest results will be given.

Author: TRZEBINSKI, Maciej (Polish Academy of Sciences (PL))

Presenter: TRZEBINSKI, Maciej (Polish Academy of Sciences (PL))

Contribution ID: **7** Type: **not specified**

Monte Carlo Simulation for the LHC Experiments at CERN: A Comprehensive Overview

This overview of the Monte Carlo (MC) simulation process at the four main experiments - ATLAS, CMS, ALICE, and LHCb - at the Large Hadron Collider (LHC) is provided in this talk. Given the complexity and noise of proton-proton collisions, simulated samples are essential for understanding and interpreting the experimental results, enabling precise measurements and searches for new physics. The general simulation workflow consists of three main stages: event generation, detector simulation, and digitization. This process is explored in all four experiments, identifying both shared methodologies and experiment-specific adaptations. Key software tools such as PYTHIA for event generation, GEANT4 for particle tracking, and dedicated experiment frameworks are discussed. In addition to highlighting the technical process, the presentation also addresses computational resources and the time required for these simulations. Looking ahead, the upcoming High-Luminosity LHC (HL-LHC) will amplify these challenges, necessitating improvements in the efficiency and scalability of simulation tools. This presentation aims to offer a structured understanding of LHC data simulation and its future directions.

Authors: RAPSEVICIUTE, Marija (Vilnius University (LT)); SILALE, Aivaras (Vilnius University (LT)); Dr SARPIS, Mindaugas (Vilnius University (LT)); RAPSEVICIUS, Valdas (Vilnius University (LT))

Presenter: RAPSEVICIUTE, Marija (Vilnius University (LT))

Contribution ID: **8** Type: **not specified**

Exploring Frontiers of TMD Physics with Lattice QCD

Transverse-momentum-dependent parton distributions (TMDs) are essential for unraveling the three-dimensional structure of hadrons, forming a core scientific component of the Electron-Ion Collider (EIC) program. Employing a novel Coulomb-gauge-fixed lattice QCD approach at physical quark masses, we reliably access transverse separations up to approximately 1 fm, corresponding to the small transverse momenta relevant for EIC measurements. In this presentation, we summarize recent lattice QCD advancements, systematically progressing from foundational calculations of the Collins-Soper (CS) kernel to detailed studies of pion and proton TMD structures. Our calculations include a first-principles determination of the nonperturbative CS kernel, crucial for describing the rapidity evolution of TMDs. Extending these methodologies, we investigate pion valence-quark TMD distributions, providing new insights into the internal transverse structure of the pion. Most significantly, our benchmark computations for proton helicity and flavor-dependent unpolarized TMDPDFs reveal similarities in transverse dependence between helicity and unpolarized distributions at moderate momentum fractions, alongside discernible flavor-dependent variations. Collectively, these lattice results pave the way, for the first time, toward direct QCD-based comparisons and serve as essential guidance for phenomenological parametrizations derived from global analyses of experimental data.

Author: MUKHERJEE, Swagato

Presenter: MUKHERJEE, Swagato

Contribution ID: **9** Type: **not specified**

Inclusive open charm photoproduction in ultraperipheral collisions at the LHC with GγA-FONLL

Ultraperipheral heavy-ion collisions (UPCs) offer a clean way to study photon–nucleus interactions at high energy. In this talk, we present the first next-to-leading order predictions for inclusive D^0 production in Pb–Pb UPCs at the LHC, obtained with the new GγA–FONLL framework. The framework relies on FONLL (Fixed-Order Next-to-Leading Logarithm) to model heavy-quark production in photonuclear collisions and employs a photon-flux reweighting procedure to describe the production cross sections in ultraperipheral heavy-ion collisions. The GγA calculations are first validated against the photoproduction cross sections of D^* in electron–proton collisions at HERA. The predictions for the D^0 production cross section in ultraperipheral Pb–Pb collisions at the LHC are then presented and compared to the first experimental results obtained by CMS at $\sqrt{s_{NN}} = 5.36$ TeV. The predictions are benchmarked against different choices of nuclear parton distribution functions, fragmentation functions, and renormalization and factorization scales.

Authors: STASTO, Anna Maria (Pennsylvania State University (US)); Dr INNOCENTI, Gian Michele (Massachusetts Inst. of Technology (US)); CACCIARI, Matteo (LPTHE Jussieu)

Presenter: Dr INNOCENTI, Gian Michele (Massachusetts Inst. of Technology (US))

Contribution ID: **10** Type: **not specified**

Numerical Calculation of Coulomb Corrections in Forward Elastic $p^{\uparrow}p$ and $p^{\uparrow}A$ Scattering

The analysis of transverse analyzing powers $A_{\mathrm{N}}^{pA}(t)$ in proton-nucleus scattering, as measured by the RHIC hydrogen gas jet target polarimeter (HJET), requires precise Coulomb corrections to both spin-flip and non-flip amplitudes. These corrections must account for a broad range of nuclear charges Z and form factor slopes, while allowing flexibility to vary form factors during data fitting.

To avoid technically challenging calculations involving a small but finite fictitious photon mass, the Coulomb correction to the non-flip electromagnetic amplitude with an exponential form factor is related to the corresponding correction for the spin-flip amplitude. This approach enables evaluation of soft photon contributions for all amplitudes—including those with non-exponential form factors—in the massless photon limit, using only analytical expressions and numerically stable integrals with nonsingular integrands and finite integration limits.

Additionally, an absorptive correction to the spin-flip electromagnetic amplitude, which plays a crucial role in spin effects in forward polarized proton-nucleus scattering, is accurately calculated. These results provide a robust foundation for interpreting high-precision measurements of $A_{\mathrm{N}}^{pA}(t)$ at HJET and for testing models of hadronic spin dependence.

Author: POBLAGUEV, Andrei

Presenter: POBLAGUEV, Andrei

Contribution ID: **11** Type: **not specified**

Developments in collinear and TMD heavy boson probability density functions

Heavy boson densities are determined by solving extended DGLAP-type evolution equations that include all known strongly and weakly interacting partons and bosons. We use the Parton-Branching (PB) approach, which also allows for the direct extraction of Transverse Momentum Dependent (TMD) densities.

The initial distributions are fitted to high-precision Deep Inelastic Scattering data from HERA, ensuring accurate descriptions of the measurements. Photon and heavy boson densities are further validated using HERA cross-section data.

Author: MORAL FIGUEROA, Keila (CMS)

Presenter: MORAL FIGUEROA, Keila (CMS)

Contribution ID: **12** Type: **not specified**

Nonuniversality of charm and beauty fragmentation and its impact on measurements at LHC and in neutrino(astro)physics

Fragmentation of charm and beauty quarks into charm and beauty hadrons in pp collisions at LHC has recently been measured to be nonuniversal, with deviations from universality as established from e+e- collisions by up to an order of magnitude.
We review these measurements and find a simple entirely data-driven phenomenological parametrization of this nonuniversality. We apply this to the extrapolation of total pp charm cross sections from fiducial measurements at LHC (arXiv:2506.22616) and to their comparison to NNLO QCD, as well as to other final states like charm- and beauty-jet production and neutrino spectra arising from heavy flavour decays. While the changes at low pT and thus (at LHC) mostly low x are partially found to be dramatic, at high pT asymptotic agreement with e+e- results is found. The former noticeably affects
laboratory and cosmic ray experiments with neutrinos. The latter is relevant for the validity of results involving high-pT charm and beauty jets, including Higgs coupling studies and BSM searches.

Author: GEISER, Achim (Deutsches Elektronen-Synchrotron (DE))

Presenter: GEISER, Achim (Deutsches Elektronen-Synchrotron (DE))

Contribution ID: **13** Type: **not specified**

Extracting the gluon density at the Electron-Ion Collider from F_L measurements

We explore the potential for the extraction of the longitudinal structure function F_L and the determination of the gluon unpolarized PDF from it. The impact of differing assumptions on sample sizes, systematic uncertainties and beam energy scenarios are investigated. With a sufficiently large number of center-of-mass energy configurations and well-controlled systematics, the EIC will measure F_L with an unprecedented precision, even with relatively modest luminosities. The accessible kinematic range complements both fixed-target and Hadron-Electron Ring Accelerator (HERA) data. This allows the extraction of the gluon density with higher precision compared with the extraction done with HERA data.

Authors: JIMÉNEZ-LÓPEZ, Javier (University of Alcalá); WICHMANN, Katarzyna (Deutsches Elektronen-Synchrotron (DE)); NEWMAN, Paul Richard (University of Birmingham (GB))

Presenter: JIMÉNEZ-LÓPEZ, Javier (University of Alcalá)

Contribution ID: **14** Type: **not specified**

Welcome

Monday, 8 September 2025 09:00 (10 minutes)

Presenters: ROYON, Christophe (The University of Kansas (US)); BENIĆ, Sanjin

Contribution ID: **15** Type: **not specified**

Modern PDFs their disagreements and how to improve

Monday, 8 September 2025 09:10 (30 minutes)

Presenters: SARKAR, Amanda (University of Oxford (GB)); SARKAR, amanda

Session Classification: PDFs, QCD fits session I

Contribution ID: **16** Type: **not specified**

Quark TMD: Bridging small- and large-x through MSTT factorization

Monday, 8 September 2025 09:40 (30 minutes)

Presenter: MUKHERJEE, Swagato

Session Classification: PDFs, QCD fits session I

Contribution ID: **17** Type: **not specified**

Extracting the gluon density at the Electron-Ion Collider from F_L measurements

Monday, 8 September 2025 10:10 (30 minutes)

Presenter: JIMÉNEZ-LÓPEZ, Javier (University of Alcalá)

Session Classification: PDFs, QCD fits session I

Contribution ID: **18** Type: **not specified**

A second detector for the Electron-Ion Collider (EIC)

Monday, 8 September 2025 11:10 (30 minutes)

Presenter: NADEL-TURONSKI, Pawel (University of South Carolina)

Session Classification: PDFs, QCD fits session II

Contribution ID: **19** Type: **not specified**

Recent jet cross section and PDF measurements in CMS

Monday, 8 September 2025 11:40 (30 minutes)

Presenters: SAVOIU, Daniel (KIT); SAVOIU, Daniel (Hamburg University (DE))

Session Classification: PDFs, QCD fits session II

Contribution ID: **20** Type: **not specified**

Discussion: QCD fits and PDFs, complementarity between LHC and EIC

Monday, 8 September 2025 12:10 (50 minutes)

Presenters: SARKAR, Amanda (University of Oxford (GB)); SAVOIU, Daniel (Hamburg University (DE)); NADEL-TURONSKI, Pawel (University of South Carolina)

Session Classification: PDFs, QCD fits session II

Contribution ID: **21** Type: **not specified**

From Multiperipheral Models to BFKL Dynamics in Mueller–Navelet Jets

Monday, 8 September 2025 15:00 (30 minutes)

Presenters: SABIO VERA, Agustin; Prof. SABIO VERA, Agustin; Mr VACCARO, Dario (Laboratório de Instrumentação e Física Experimental de Partículas (LIP))

Session Classification: BFKL and low x session I

Contribution ID: **22** Type: **not specified**

Low-x perspective on twist decomposition of the proton structure functions

Monday, 8 September 2025 16:00 (30 minutes)

Presenters: SADZIKOWSKI, Mariusz (Jagiellonian University); SADZIKOWSKI, Mariusz

Session Classification: BFKL and low x session I

Contribution ID: **23** Type: **not specified**

tba

Presenters: MOTYKA, Leszek; MOTYKA, Leszek

Session Classification: BFKL and low x session I

Contribution ID: **24** Type: **not specified**

tba

Presenters: MARQUET, Cyrille (CPHT - Ecole Polytechnique); MARQUET, Cyrille Michel (Universidade de Santiago de Compostela (ES))

Session Classification: BFKL and low x session I

Contribution ID: **25** Type: **not specified**

Non-perturbative TMD physics from lattice QCD

Monday, 8 September 2025 15:30 (30 minutes)

Presenter: MUKHERJEE, Swagato

Session Classification: BFKL and low x session I

Contribution ID: **26** Type: **not specified**

What HERA taught us about low-x

Monday, 8 September 2025 17:00 (30 minutes)

Presenters: SARKAR, Amanda (University of Oxford (GB)); SARKAR, amanda

Session Classification: BFKL and low x session II

Contribution ID: **27** Type: **not specified**

Discussion: BFKL and low x physics

Monday, 8 September 2025 17:30 (1 hour)

Presenters: MOTYKA, Leszek; SADZIKOWSKI, Mariusz (Jagiellonian University); SADZIKOWSKI, Mariusz

Session Classification: BFKL and low x session II

Contribution ID: **28** Type: **not specified**

UPC measurements in p+A and A+A collisions with ATLAS

Presenter: COLE, Brian Andrew (Columbia University (US))

Session Classification: UPC in HIN and saturation session I

Contribution ID: **29** Type: **not specified**

Overview of the latest CMS UPC and photonuclear results

Tuesday, 9 September 2025 09:00 (30 minutes)

Presenter: ALCERRO ALCERRO, Luis (The University of Kansas (US))

Session Classification: UPC in HIN and saturation session I

Contribution ID: **30** Type: **not specified**

Overview of recent UPC measurements with the ATLAS Detector

Tuesday, 9 September 2025 09:30 (30 minutes)

Presenter: STANEK-MASLOUSKA, Weronika (Deutsches Elektronen-Synchrotron (DE))

Session Classification: UPC in HIN and saturation session I

Contribution ID: **31** Type: **not specified**

Looking for saturation at the LHC in Pb Pb data

Tuesday, 9 September 2025 10:00 (30 minutes)

Presenter: ROYON, Christophe (The University of Kansas (US))

Session Classification: UPC in HIN and saturation session I

Contribution ID: **32** Type: **not specified**

Exclusive Photoproduction of Photon-Pion in Saturation Framework

Tuesday, 9 September 2025 11:00 (30 minutes)

Presenter: YARWICK, Joseph (IJC Lab, University Paris-Saclay)

Session Classification: UPC in HIN and saturation session II

Contribution ID: **33** Type: **not specified**

BFKL phenomenology via eigenfunctions of the NLO kernel

Tuesday, 9 September 2025 11:30 (30 minutes)

Presenters: Prof. PAPA, ALESSANDRO (Università della Calabria & INFN-Cosenza); PAPA, Alessandro; PAPA, Alessandro

Session Classification: UPC in HIN and saturation session II

Contribution ID: **34** Type: **not specified**

Discussion: HIN UPC and saturation

Tuesday, 9 September 2025 12:00 (40 minutes)

Presenters: ROYON, Christophe (The University of Kansas (US)); MARQUET, Cyrille (CPHT - Ecole Polytechnique); MUKHERJEE, Swagato

Session Classification: UPC in HIN and saturation session II

Contribution ID: **35** Type: **not specified**

Update on the odderon discovery from TOTEM

Tuesday, 9 September 2025 15:00 (30 minutes)

Presenters: NEMES, Frigyes Janos (CERN (also at Wigner RCP Budapest, Hungary)); NEMES, Frigyes (MTA KFKI)

Session Classification: Odderon and soft diffraction session I

Contribution ID: **36** Type: **not specified**

Connection between H(x) scaling and geometric scaling in elastic proton-proton collisions

Tuesday, 9 September 2025 15:30 (30 minutes)

Presenters: CSORGO, Tamas (MATE Institute of Technology Karoly Robert Campus (HU)); CSÖRGÖ, Tamás Ferenc (Wigner RCP Budapest and MATE Institute of Technology, Gyöngyös, Hungary)

Session Classification: Odderon and soft diffraction session I

Contribution ID: **37** Type: **not specified**

Numerical Calculation of Coulomb Corrections in Forward Elastic pp and pA Scattering

Wednesday, 10 September 2025 11:00 (30 minutes)

Presenters: POBLAGUEV, Andrei; POBLAGUEV, Andrei (Brookhaven National Laboratory)

Session Classification: Diffraction and gamma gamma physics session II

Contribution ID: **38** Type: **not specified**

Discussion: odderon and soft diffraction

Tuesday, 9 September 2025 17:30 (45 minutes)

Presenters: PITT, Michael (CERN); BENIĆ, Sanjin

Session Classification: Odderon and soft diffraction session II

Contribution ID: **39** Type: **not specified**

Review of recent RHIC Spin Results

Wednesday, 10 September 2025 15:00 (30 minutes)

Presenters: SURROW, Bernd; Prof. SURROW, Bernd (Temple University); SURROW, Bernd

Session Classification: Spin and GPD session I

Contribution ID: **40** Type: **not specified**

JLab Program on Spin and 3d Structure Physics

Wednesday, 10 September 2025 15:30 (30 minutes)

Presenter: CHEN, Jian-Ping

Session Classification: Spin and GPD session I

Contribution ID: **41** Type: **not specified**

Review of the COMPASS spin programme

Wednesday, 10 September 2025 16:00 (30 minutes)

Presenter: BADELEK, Barbara (University of Warsaw (PL))

Session Classification: Spin and GPD session I

Contribution ID: **42** Type: **not specified**

Recent results in extracting GPDs and related form factors from deeply virtual exclusive scattering data

Wednesday, 10 September 2025 17:00 (30 minutes)

Presenters: KUMERICKI, Kresimir; KUMERIČKI, Krešimir

Session Classification: Spin and GPD session II

Contribution ID: **43** Type: **not specified**

The LHCspin project

Wednesday, 10 September 2025 17:30 (30 minutes)

Presenters: SANTIMARIA, Marco; SANTIMARIA, Marco (INFN e Laboratori Nazionali di Frascati (IT))

Session Classification: Spin and GPD session II

Contribution ID: **44** Type: **not specified**

Discussion: spin and GPD

Wednesday, 10 September 2025 18:00 (45 minutes)

Presenters: BADELEK, Barbara (University of Warsaw (PL)); CHEN, Jian-Ping; SANTIMARIA, Marco; SANTIMARIA, Marco (INFN e Laboratori Nazionali di Frascati (IT))

Session Classification: Spin and GPD session II

Contribution ID: **45** Type: **not specified**

Jet and jet substructure results

Thursday, 11 September 2025 09:00 (30 minutes)

Presenter: TOIKKA, Nico Timothy (Helsinki Institute of Physics (FI))

Session Classification: Final states, jets and vector meson+jet session I

Contribution ID: **46** Type: **not specified**

Vector boson production in CMS: single boson production

Thursday, 11 September 2025 09:30 (30 minutes)

Presenter: Mr VANDEN BEMDEN, Max (Universite Libre de Bruxelles (BE))

Session Classification: Final states, jets and vector meson+jet session I

Contribution ID: **47** Type: **not specified**

Vector boson physics at CMS: Multiboson

Thursday, 11 September 2025 10:00 (30 minutes)

Presenters: CANDELISE, Vieri (Universita di Roma I "La Sapienza"-Universita & INFN, Roma I); CANDELISE, Vieri (Universita e INFN Trieste (IT))

Session Classification: Final states, jets and vector meson+jet session I

Contribution ID: **48** Type: **not specified**

Measurement of vector boson plus jets and multi-jets production in ATLAS

Thursday, 11 September 2025 11:00 (30 minutes)

Presenter: MEONI, Evelin (Universita della Calabria e INFN (IT))

Session Classification: Final states, jets and vector meson+jet session II

Contribution ID: **49** Type: **not specified**

Developments in collinear and TMD heavy boson probability density functions

Thursday, 11 September 2025 11:30 (30 minutes)

Presenter: MORAL FIGUEROA, Keila (CMS)

Session Classification: Final states, jets and vector meson+jet session II

Contribution ID: **50** Type: **not specified**

The role of NLO and higher-twist effects in deeply virtual meson production

Thursday, 11 September 2025 12:00 (30 minutes)

Presenters: PASSEK-K., Kornelija (Ruđer Bošković Institute, Zagreb, Croatia); PASSEK-KUMERIČKI, Kornelija

Session Classification: Final states, jets and vector meson+jet session II

Contribution ID: **51** Type: **not specified**

Discussion: final states, jets, vector meson+jet

Thursday, 11 September 2025 12:30 (40 minutes)

Presenters: MEONI, Evelin (Universita della Calabria e INFN (IT)); CANDELISE, Vieri (Universita di Roma I "La Sapienza"-Universita & INFN, Roma I); CANDELISE, Vieri (Universita e INFN Trieste (IT))

Session Classification: Final states, jets and vector meson+jet session II

Contribution ID: **52** Type: **not specified**

Prospects of CEP studies at the LHC

Wednesday, 10 September 2025 09:00 (30 minutes)

Presenter: KHOZE, Valery (University of Durham (GB))

Session Classification: Diffraction and gamma gamma physics session I

Contribution ID: **53** Type: **not specified**

Recent PPS results and prospects

Wednesday, 10 September 2025 09:30 (30 minutes)

Presenters: SZANYI, Istvan (MATE KRC, University of Kansas, Wigner RCP); Mr SZANYI, István (Eötvös Loránd University)

Session Classification: Diffraction and gamma gamma physics session I

Contribution ID: **54** Type: **not specified**

Overview of ATLAS forward proton detectors: status, performance and new physics results

Wednesday, 10 September 2025 10:00 (30 minutes)

Presenter: TRZEBINSKI, Maciej (Polish Academy of Sciences (PL))

Session Classification: Diffraction and gamma gamma physics session I

Contribution ID: **55** Type: **not specified**

Diffractive results and prospects from CMS

Tuesday, 9 September 2025 16:00 (30 minutes)

Presenter: PITT, Michael (CERN)

Session Classification: Odderon and soft diffraction session I

Contribution ID: **56** Type: **not specified**

Recent diffractive physics results from LHCb

Wednesday, 10 September 2025 11:30 (30 minutes)

Presenters: SMITH, Krista Lizbeth (Pusan National University (KR)); SMITH, Krista

Session Classification: Diffraction and gamma gamma physics session II

Contribution ID: **57** Type: **not specified**

Discussion: diffraction and gamma gamma physics

Wednesday, 10 September 2025 12:00 (45 minutes)

Presenters: TRZEBINSKI, Maciej (Polish Academy of Sciences (PL)); KHOZE, Valery (University of Durham (GB))

Session Classification: Diffraction and gamma gamma physics session II

Contribution ID: **58** Type: **not specified**

Top physics and jet results in heavy ion interactions

Friday, 12 September 2025 10:00 (30 minutes)

Presenter: Dr KRINTIRAS, Georgios (The University of Kansas (US))

Session Classification: HIN, QGP and diffraction session I

Contribution ID: **59** Type: **not specified**

Recent results from pO and OO runs at the LHC

Friday, 12 September 2025 12:00 (30 minutes)

Presenters: WANG, Jing; WANG, Jing (Massachusetts Inst. of Technology (US)); WANG, jing

Session Classification: HIN, QGP and diffraction session II

Contribution ID: **60** Type: **not specified**

Top quark production in semi-exclusive collisions and intrajet collectivity probes at the LHC

Friday, 12 September 2025 09:30 (30 minutes)

Presenter: MURILLO QUIJADA, Javier Alberto (Universidad de Sonora (MX))

Session Classification: HIN, QGP and diffraction session I

Contribution ID: **61** Type: **not specified**

Multiplicity distributions in DIS for heavy nucleus

Friday, 12 September 2025 11:00 (30 minutes)

Presenter: GARRIDO, José

Session Classification: HIN, QGP and diffraction session II

Contribution ID: **62** Type: **not specified**

Forward gamma-Hadron TEEC and Azimuthal Correlations in Proton-Proton and Proton-Lead Collisions at the LHC

Friday, 12 September 2025 11:30 (30 minutes)

Presenter: GANGULI, Ishita

Session Classification: HIN, QGP and diffraction session II

Contribution ID: **63** Type: **not specified**

Exclusive vector production of ePIC detector at EIC

Presenters: A. AL-BATAINEH, Ayman (Yarmouk University); AL-BATAINEH, Ayman Ahmad; AL--BATAINEH, Ayman Ahmad (U); AL-BATAINEH, Ayman Ahmad (University of Kansas (US))

Session Classification: HIN, QGP and diffraction session II

Contribution ID: **64** Type: **not specified**

Discussion: HIN, QGP, diffraction

Friday, 12 September 2025 12:30 (40 minutes)

Session Classification: HIN, QGP and diffraction session II

Contribution ID: **65** Type: **not specified**

Study of soft QCD phenomena and double parton interaction in ATLAS

Friday, 12 September 2025 15:00 (30 minutes)

Presenter: ARBIOL VAL, Sergio Javier (Polish Academy of Sciences (PL))

Session Classification: Final state, particle production, Drell-Yan session I

Contribution ID: **66** Type: **not specified**

Two- and three-particle Bose-Einstein correlations in small collision systems at LHCb

Friday, 12 September 2025 15:30 (30 minutes)

Presenters: KUCHARCZYK, Marcin (Syracuse); KUCHARCZYK, Marcin (Polish Academy of Sciences (PL)); KUCHARCZYK, Marcin (Polish Academy of Sciences (PL))

Session Classification: Final state, particle production, Drell-Yan session I

Contribution ID: **67** Type: **not specified**

Probing hadron structure through exclusive photoproduction of a photon-meson pair

Friday, 12 September 2025 16:00 (30 minutes)

Presenters: DUPLANCIC, Goran (Institute Ruder Boskovic, Zagreb); DUPLANČIĆ, Goran

Session Classification: Final state, particle production, Drell-Yan session I

Contribution ID: **68** Type: **not specified**

Precision measurements of Drell-Yan processes in ATLAS

Friday, 12 September 2025 09:00 (30 minutes)

Presenter: HRYN'OVA, Tetiana (Centre National de la Recherche Scientifique (FR))

Session Classification: HIN, QGP and diffraction session I

Contribution ID: **69** Type: **not specified**

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Session Classification: Final state, particle production, Drell-Yan session II

Contribution ID: **70** Type: **not specified**

Discussion: final state, particle production, Drell-Yan

Friday, 12 September 2025 17:00 (45 minutes)

Presenters: MEONI, Evelin (Universita della Calabria e INFN (IT)); CANDELISE, Vieri (Universita di Roma I "La Sapienza"-Universita & INFN, Roma I); CANDELISE, Vieri (Universita e INFN Trieste (IT))

Session Classification: Final state, particle production, Drell-Yan session II

Contribution ID: **71** Type: **not specified**

Workshop conclusion and difflowx 2026

Friday, 12 September 2025 17:45 (10 minutes)

Presenters: ROYON, Christophe (The University of Kansas (US)); Dr KRINTIRAS, Georgios (The University of Kansas (US)); BENIĆ, Sanjin

Contribution ID: **72** Type: **not specified**

Transverse Single Spin Asymmetry from Pomeron-Odderon Interference

Tuesday, 9 September 2025 17:00 (30 minutes)

Presenters: Mr VIVODA, Eric Andreas (Department of Physics, Faculty of Science, University of Zagreb); Mr VIVODA, Eric Andreas (PMF Zagreb)

Session Classification: Odderon and soft diffraction session II

Contribution ID: **73** Type: **not specified**

Forward γ-hadron TEEC and Azimuthal Correlations in Proton-Proton and Proton-Lead Collisions at the LHC

We study photon-hadron Transverse Energy-Energy Correlators (TEEC) and azimuthal correlation in the forward rapidity region for pp and pPb collisions, in light of the planned detector upgrades at high luminosity LHC. The computation is based on the hybrid k_T factorization, implemented at parton level in KaTie, supplemented by initial and final state radiation as well as hadronization via CASCADE. Both TEEC and the correlation distributions show a significant suppression in pPb compared to pp. This study further emphasizes the potential of TEEC as an observable for saturation studies. Based on arXiv:2507.23435

Author: GANGULI, Ishita

Co-author: KOTKO, Piotr (AGH UST)

Presenter: GANGULI, Ishita

Contribution ID: **74** Type: **not specified**

Commemoration for Laszlo Jenkovszky

Tuesday, 9 September 2025 18:15 (15 minutes)

Presenters: CSORGO, Tamas (MATE Institute of Technology Karoly Robert Campus (HU)); CSÖRGÖ, Tamás Ferenc (Wigner RCP Budapest and MATE Institute of Technology, Gyöngyös, Hungary)

Session Classification: Commemoration for Laszlo Jenkovszky, Michele Arneodo

Contribution ID: **75** Type: **not specified**

Commemoration for Michele Arneodo

Tuesday, 9 September 2025 18:30 (15 minutes)

Presenters: SOLANO, Ada (Universita' di Torino e INFN (IT)); RUSPA, Marta (Universita e INFN Torino (IT))

Session Classification: Commemoration for Laszlo Jenkovszky, Michele Arneodo

Contribution ID: **76** Type: **not specified**

General Public talk: A journey to understand the proton

Wednesday, 10 September 2025 18:45 (1h 30m)

Presenter: ROYON, Christophe (The University of Kansas (US))

Contribution ID: **77** Type: **not specified**

Workshop tour

Thursday, 11 September 2025 15:30 (3h 30m)

Session Classification: Worshop tour and dinner