52nd International Symposium on Multiparticle Dynamics (ISMD 2023)

Monday, 21 August 2023 - Saturday, 26 August 2023

MATE KRC

Report of Abstracts

Opening section / **133**

Opening of ISMD 2023

Author: Tamas Csorgo[1]

[1] *MATE Institute of Technology Karoly Robert Campus (HU)*

Corresponding Author: tamas.ferenc.csorgo@cern.ch

Chair of ISMD 2023

Opening section / **134**

Welcome to MATE Károly Róbert Campus

Author: Zoltán Bujdosó[1]

[1] *MATE Károly Róbert Campus*

Corresponding Author: bujdoso.zoltan@uni-mate.hu

by Director General of MATE Károly Róbert Campus

Collectivity in high energy collisions: Jets and flows / **7**

Elliptic flow in small collisional systems

Author: Shu-yi Wei[1]

[1] *Shandong University*

Corresponding Author: shuyi@sdu.edu.cn

15 min +5 min for discussions, on-site talk

Collectivity in high energy collisions: Jets and flows / **13**

Measurements of strange and multi-strange hadrons elliptic flow in isobar collisions at RHIC by STAR

Author: Vipul Bairathi[1]

[1] *Instituto de Alta Investigación, Universidad de Tarapacá*

Corresponding Author: vipul.bairathi@gmail.com

online talk, 12+3 min for discussions

Collectivity in high energy collisions: Jets and flows / **14**

Understanding the effect of strangeness and electric charge on the NCQ scaling of directed flow

Author: Kishora Nayak[None]

Corresponding Author: k.nayak1234@gmail.com

12+3 min for discussions, online talk

Collectivity in high energy collisions: Jets and flows / **15**

Measurement of azimuthal anisotropy using new event categorization with multiplicity at PHENIX

Author: Maya Shimomura[1]

[1] *Nara Women's University (JP)*

Corresponding Author: maya.shimomura@cern.ch

12+3 min for discussions, online talk

Collectivity in high energy collisions: Jets and flows / **16**

Global polarization of Lambda hyperons in heavy ion collisions: tilted bulk medium, velocity field and its correlation with directed flow

Author: Zefang Jiang[None]

Corresponding Author: jiangzf@mails.ccnu.edu.cn

12+3 min for discussions, online talk

Collectivity in high energy collisions: Jets and flows / **12**

First-order event plane correlated directed and triangular flow from fixed-target energies at RHIC-STAR

Author: SHARANG RAV SHARMA[1]

[1] *IISER Tirupati*

Corresponding Author: sharang.rav@students.iisertirupati.ac.in

on-site student talk: 8 min + 2 min for discussions.

Partially supported by an EMMI grant to ISMD 2023.

Cosmic ray and astroparticle physics / 45

The latest results of the Telescope Array experiment

Author: Eiji Kido[1]

[1] *RIKEN Cluster for Pioneering Research*

Corresponding Author: eiji.kido@riken.jp

15+5 min for discussions, on-site presentation

Partially supported by an EMMI grant to ISMD 2023.

Cosmic ray and astroparticle physics / 46

Cosmology from strong interactions

Author: Michal Sumbera[1]

[1] *Nuclear Physics Institute, Acad. of Sciences of the Czech Rep. (CZ)*

Corresponding Author: sumbera@ujf.cas.cz

Cosmic ray and astroparticle physics / 47

Fixed-target measurements contributing to cosmic rays studies

Author: Saverio Mariani[1]

[1] *CERN*

Corresponding Author: saverio.mariani@cern.ch

15+5 min for discussions, online talk

Cosmic ray and astroparticle physics / 8

Implications of $|U_{\mu i}| = |U_{\tau i}|$ in the canonical seesaw mechanism

Author: Jianlong Lu[1]

[1] *National University of Singapore*

12+3 min for discussions, on-site talk.

Partially supported by an EMMI grant to ISMD 2023.

Cosmic ray and astroparticle physics / **119**

Dark Matter and the W Mass

Author: Noah Bray-Ali[1]

[1] *Mount Saint Mary's University-Los Angeles*

Corresponding Author: nbrayali@msmu.edu

12+3 min for discussions, online talk

Femtoscopy / **52**

Collision energy dependence of source sizes for primary and secondary pions at NICA energies

Author: Alejandro Ayala[1]

[1] *Instituto de Ciencias Nucleares, Universidad Nacional Autonoma de Mexico*

Corresponding Author: ayala@nucleares.unam.mx

15+5 min for discussions, on-site talk

Femtoscopy / **53**

Femtoscopy with Lévy sources from SPS through RHIC to LHC

Author: Mate Csanad[1]

[1] *Eotvos University, Budapest*

Corresponding Author: mate.csanad@cern.ch

15+5 min for discussions, on-site talk

Femtoscopy / **54**

Study of the Bose–Einstein correlations in proton-proton and proton-lead collisions at LHCb

Author: Marcin Kucharczyk[1]

[1] *Polish Academy of Sciences (PL)*

Corresponding Author: marcin.kucharczyk@cern.ch

15+5 min for discussion, on-site talk

Femtoscopy / **56**

Two-pion Bose-Einstein correlations in Au+Au collisions at 3 GeV in the STAR experiment

Authors: Anna Kraeva[None]; Anna Kraeva[1]

[1] *National Research Nuclear University MEPhI (RU)*

Corresponding Authors: annakraeva555@gmail.com, anna.kraeva@cern.ch

12+3 min for discussions, on-site contribution

Forward Physics: Diffraction, Pomeron and Odderon / **57**

Forward proton tagging in ATLAS –status of detectors and new physics results

Author: Rafał Staszewski[1]

[1] *IFJ PAN Cracow (PL)*

Corresponding Author: rafal.staszewski@ifj.edu.pl

12+3 min for discussions, on-site talk

Forward Physics: Diffraction, Pomeron and Odderon / **58**

Hunting for QCD Instantons at the LHC in the Forward Proton mode

Author: Valery Khoze[1]

[1] *University of Durham (GB)*

Corresponding Author: v.a.khoze@durham.ac.uk

12+3 min for discussions, on-site talk

Forward Physics: Diffraction, Pomeron and Odderon / **59**

Strong Interactions at High Energy: 100 Years of Inquiery

Author: Vladimir Petrov[1]

[1] *Institute for High Energy Physics of NRC Kurchatov Institute (RU)*

Corresponding Author: vladimir.petrov@cern.ch

12+3 min for discussions, online talk

Forward Physics: Diffraction, Pomeron and Odderon / **61**

The Pomeron spin structure and new data in the CNI region

Author: Boris Kopeliovich[None]

Corresponding Author: boris.kopeliovich@gmail.com

12+3 min for discussions, on-site talk

Forward Physics: Diffraction, Pomeron and Odderon / **60**

Strangeness production in double gap events in ALICE

Author: Rainer Schicker[1]

[1] *Heidelberg University (DE)*

Corresponding Author: schicker@physi.uni-heidelberg.de

12+3 min for discussions, on-site talk

Forward Physics: Diffraction, Pomeron and Odderon / **62**

On dip-bump structures in proton diffractive dissociation at the LHC

Author: Laszlo Jenkovszky[None]

Corresponding Author: laszlojenkovszky@gmail.com

12+3 min for discussions, on-site talk

Forward Physics: Diffraction, Pomeron and Odderon / **104**

Anomalous kaon correlations in Pb-Pb collisions at LHC: melting and refreezing of QCD vacuum

Author: Joseph Kapusta[None]

Corresponding Author: kapusta@umn.edu

12+3 min for discussions, online talk.

Actually this talk is the beginning of the section on Multiparticle Correlations and Fluctuations, to be continued on Tuesday, CET 11:00. but it is diffiult to indicate it otherwise on Indico.

Hadronic final states in high pT interactions / **31**

Observation of the dead cone effect in charm and bottom quark jets and its QCD explanation

Author: Stefan Kluth[1]

[1] *Max Planck Society (DE)*

Corresponding Author: skluth@mpp.mpg.de

12+3 min for discussions, on-site talk

Hadronic final states in high pT interactions / **32**

Recent J/ψ results measured with PHENIX

Author: Tamas Novak[None]

Corresponding Author: novak.tamas@uni-mate.hu

12+3 min for discussions, on-site talk

Hadronic final states in high pT interactions / **33**

J/Psi hadroproduction with color reconnection effect

Author: Piotr Kotko[1]

[1] *AGH UST*

Corresponding Author: piotr.kotko@fis.agh.edu.pl

12+3 min for discussions, online talk

Hadronic final states in high pT interactions / **34**

Readiness for physics data taking of sPHENIX experiment at RHIC

Author: Itaru Nakagawa[1]

[1] *RIKEN*

Corresponding Author: itaru@bnl.gov

12+3 min for discussions, on-site talk

Hadronic final states in high pT interactions / **35**

Initial stages and QGP anisotropy constrained through high-pt data

Author: Stefan Stojku[None]

Corresponding Author: stefans@ipb.ac.rs

8+2 min for discussion, on-site talk.

Partially supported by an EMMI grant to ISMD 2023.

Hadronic final states in high pT interactions / **36**

New measurements of charged jet fragmentation properties in pp and p–Pb collisions with ALICE

Author: Zoltan Varga[1]

[1] *Wigner Research Centre for Physics (Wigner RCP) (HU)*

Corresponding Author: zoltan.varga@cern.ch

8+2 min for discussions, on-site talk.

Partially supported by an EMMI grant to ISMD 2023.

Hadronic final states in high pT interactions / **37**

Deep learning assisted unbinned measurements of jet substructure observables

Author: Radek Zlebcik[1]

[1] *Deutsches Elektronen-Synchrotron (DE)*

Corresponding Author: zlebcik@ipnp.mff.cuni.cz

8+2 min for discussions, on-site talk

Multiparticle correlations and fluctuations / **87**

Exploring strongly interacting matter in heavy-ion collisions

Author: Masakiyo Kitazawa[None]

Corresponding Author: kitazawa@yukawa.kyoto-u.ac.jp

15+5 min for discussions, on-site talk

Multiparticle correlations and fluctuations / **88**

Thermal model interpretation of particle production in pp interactions around $\sqrt{s} \simeq$10 GeV

Author: Tomek Matulewicz[1]

[1] *University of Warsaw (PL)*

Corresponding Author: tomek.matulewicz@cern.ch

15+5 min for discussions, on-site talk

Multiparticle correlations and fluctuations / **89**

Experimental study of finite density matter at J-PARC

Author: Kyoichiro Ozawa[None]

Corresponding Author: ozawa@post.kek.jp

15+5 min for discussions, on-site talk

Multiparticle correlations and fluctuations / **85**

Recent developments in angular correlations of identified particles (experiment & theory)

Author: Lukasz Kamil Graczykowski[1]

[1] *Warsaw University of Technology (PL)*

Corresponding Author: lukasz.kamil.graczykowski@cern.ch

12+3 min online talk

Multiparticle correlations and fluctuations / **91**

Forward-backward correlations with the Σ quantity in the wounded-constituent framework ..

Author: Iwona Anna Sputowska[1]

[1] *Polish Academy of Sciences (PL)*

Corresponding Author: iwona.sputowska@cern.ch

12+3 min for discussions, on-site talk

Proton structure, small-x and large-x physics / **75**

Mueller Navelet and Mueller Tang processes at the LHC

Author: Christophe Royon[1]

[1] *The University of Kansas (US)*

Corresponding Author: christophe.royon@cern.ch

12+3 min on-site talk

Proton structure, small-x and large-x physics / 76

Direct photon cross section and double-helicity asymmetry measurement at PHENIX

Author: Sanghwa Park[1]

[1] *Jefferson Lab*

Corresponding Author: sanghwapark@gmail.com

12+3 min for discussions, online talk

Proton structure, small-x and large-x physics / 79

Small-x Helicity Evolution and Recent Developments

Author: Yossathorn Tawabutr[1]

[1] *University of Jyväskylä*

Corresponding Author: yossathorn.j.tawabutr@jyu.fi

12+3 min for discussion, on-site talk

Proton structure, small-x and large-x physics / 78

Twist decomposition of non-linear effects in Balitsky-Kovchegov evolution ...

Author: Mariusz Sadzikowski[None]

Corresponding Author: mariusz.sadzikowski@uj.edu.pl

12+3 min for discussions, online talk

Proton structure, small-x and large-x physics / 77

Nuclear parton distribution functions

Author: Aleksander Kusina[None]

Corresponding Author: aleksander.kusina@ifj.edu.pl

12+3 min for discussions, online talk

Proton structure, small-x and large-x physics / 98

The $p^{\uparrow}$ and $^{3}He^{\uparrow}$ beam polarization measurements at RHIC and future EIC

Author: Andrei Poblaguev[1]

[1] *Brookhaven National Laboratory*

Corresponding Author: apoblaguev@gmail.com

Physics of X17 and other beyond standard model states / 92

An Update on the Hypothetical X17 Particle

Author: Attila Janos Krasznahorkay[1]

[1] *Eötvös Loránd Research Network (HU)*

Corresponding Author: attila.janos.krasznahorkay@cern.ch

12+3 min for discussions, on-site talk

Partial support of this talk by MVM NPP, Paks, Hungary, https://atomeromu.mvm.hu/en/ is greatfully acknowledged by the Organizers of ISMD 2023.

Physics of X17 and other beyond standard model states / 93

Confirmation the 8Be anomaly with a different spectrometer.

Author: The Anh Tran[1]

[1] *VNU University of Sciences.*

Corresponding Author: ttanhhus@gmail.com

12+3 min for discussions, on-site talk.

Partially supported by an EMMI grant to ISMD 2023.

Physics of X17 and other beyond standard model states / 94

The X17 search with the MEG-II apparatus

Author: Hicham Benmansour[None]

Corresponding Author: hicham.benmansour@pi.infn.it

12+3 min for discussions, online talk

Physics of X17 and other beyond standard model states / **95**

Observation of structures at ~17 and ~38 MeV/c2 in the γγ invariant mass spectra in pC, dC, and dCu collisions

Author: Khachik Abraamyan[None]

Corresponding Author: abraamyan@jinr.ru

Physics of X17 and other beyond standard model states / **109**

QED meson description of the anomalous particles and the X17 particle

Author: Cheuk-Yin Wong[1]

[1] *Oak Ridge National Laboratory*

Corresponding Author: wongcyor@gmail.com

Physics of X17 and other beyond standard model states / **96**

BSM physics using photon-photon fusion processes in UPC in Pb+Pb collisions with ATLAS

Author: Klaudia Maj[1]

[1] *AGH University of Krakow (PL)*

Corresponding Author: klaudia.burka@cern.ch

12+3 min for discussions, on-site talk

Flash talks/5 min oral presentations of posters / **55**

Pion interferometry with Levy sources in sqrt(s(NN))= 200 GeV Au+Au Collisions at STAR

Author: Dániel Kincses[1]

[1] *Eötvös Loránd University*

Corresponding Author: kincses@ttk.elte.hu

A certificate of recognition and a financial prize of 200 CHF, sponsored by the MDPI Journal Universe has been awarded to this flash talk and poster presentation at ISMD 23. The selection has been done by the International and Regional Advisory Committees of ISMD and the winner has been announced at the closing of the conference to be

Mr. Dániel Kincses Ph.D. (Eötvös University, Budapest, Hungary)

for his current flash/poster talk entitled

Pion interferometry with Levy sources in sqrt(s(NN))= 200 GeV Au+Au Collisions at STAR

A copy of the recognition (without original signatures) is attached as a supplementary material to the materials of this presentation.

Flash talk, 4+1 min for discussions, with a poster presentation.
Poster size is B1 = 707 × 1000 (widthxheight) mm, in portait orientation.

Flash talk speakers are asked to prepare 4 powerpoint slides and upload them to indico until Tuesday morning. These slides will then be merged into one pdf stream, and presenters will follow each other without any break, with everyone having 5 minutes, including one question and answer, and the speaker change as well. min for discussions, on-site contribution.

Updated by T. Csörgő on November 6, 2023.

Flash talks/5 min oral presentations of posters / **10**

New Quark Matter Card Games (1): Interactions of elementary particles

Author: Ana Uzelac[None]

Corresponding Author: anauzelac@ymail.com

Flash talk, 4+1 min for discussions, with a possible poster presentation.
Poster size is B1 = 707 × 1000 (widthxheight) mm, in portait orientation.

Flash talk speakers are asked to prepare 4 powerpoint slides and upload them to indico until Tuesday morning. These slides will then be merged into one pdf stream, and presenters will follow each other without any break, with everyone having 5 minutes, including one question and answer, and the speaker change as well.

Flash talks/5 min oral presentations of posters / **11**

New Quark Matter Card Games (2): The Eightfold Path

Author: Ana Uzelac[None]

Corresponding Author: anauzelac@ymail.com

Flash talk, 4+1 min for discussions, with a possible poster presentation.
Poster size is B1 = 707 × 1000 (widthxheight) mm, in portait orientation.

Flash talk speakers are asked to prepare 4 powerpoint slides and upload them to indico until Tuesday morning. These slides will then be merged into one pdf stream, and presenters will follow each other without any break, with everyone having 5 minutes, including one question and answer, and the speaker change as well.

Flash talks/5 min oral presentations of posters / **26**

Estimating elliptic flow coefficient in heavy ion collisions using deep learning

Author: Neelkamal Mallick[1]

[1] *Indian Institute of Technology Indore*

Corresponding Author: neelkamal.mallick@cern.ch

Flash talk, 4+1 min for discussions, with a possible poster presentation.
Poster size is B1 = 707 × 1000 (widthxheight) mm, in portait orientation.

Flash talk speakers are asked to prepare 4 powerpoint slides and upload them to indico until Tuesday morning. These slides will then be merged into one pdf stream, and presenters will follow each other without any break, with everyone having 5 minutes, including one question and answer, and the speaker change as well.

Flash talks/5 min oral presentations of posters / **131**

The Future of Quantum Supercomputing and Space

Author: Cameron Ikin[1]

[1] *Capricorne Spatial Agence*

Corresponding Author: cameron.ikin@capsa.group

Flash talk, 4+1 min for discussions, with a possible poster presentation.
Poster size is B1 = 707 × 1000 (widthxheight) mm, in portait orientation.

Flash talk speakers are asked to prepare 4 powerpoint slides and upload them to indico until Tuesday morning. These slides will then be merged into one pdf stream, and presenters will follow each other without any break, with everyone having 5 minutes, including one question and answer, and the speaker change as well.

Flash talks/5 min oral presentations of posters / **130**

Jet-medium interactions through vortex ring formation inside the QGP

Author: Vítor Hugo Ribeiro[None]

Corresponding Author: vitorhibeiro@gmail.com

4+1 min flash/poster talk

Flash talks/5 min oral presentations of posters / **9**

Forward-Backward multiplicity analysis and cluster formation in pp collisions at \sqrt{s} = 0.9, 7 and 8 TeV from the CMS experiment

Author: Zongjin Ong[None]

Corresponding Author: ongzongjin@u.nus.edu

Flash/poster talk, 4+1 min for discussions
Poster size is B1 = 707 × 1000 (widthxheight) mm, in portait orientation.

Flash talk speakers are asked to prepare 4 powerpoint slides and upload them to indico until Tuesday morning. These slides will then be merged into one pdf stream, and presenters will follow each other without any break, with everyone having 5 minutes, including one question and answer, and the speaker change as well.

Important new developments in HEP / **99**

Dilepton Measurement and Future Possibilities at J-PARC

Author: Megumi Naruki[None]

Corresponding Author: naruki@post.kek.jp

12+3 min for discussion, on-site talk

Important new developments in HEP / **100**

QCD mesonic screening masses: Beyond perturbative study

Author: Najmul Haque[1]

[1] *NISER, India*

Corresponding Author: nhaque@niser.ac.in

12+3 min for discussions, on-site talk

Important new developments in HEP / **101**

Heavy mesons in medium

Author: György Wolf[None]

Corresponding Author: wolf.gyorgy@wigner.mta.hu

Important new developments in HEP / **102**

Track baryon number with heavy ion collisions

Author: Zebo Tang[1]

[1] *University of Science and Technology of China (CN)*

Corresponding Author: zebo.tang@cern.ch

12+3 min for discussions, on-site talk

Important new developments in HEP / **90**

Small system QGP: Observations and Challenges

Author: Raghunath Sahoo[1]

[1] *Indian Institute of Technology Indore (IN)*

Corresponding Author: raghunath.sahoo@cern.ch

12+3 min for discussion, online talk

Important new developments in HEP / **103**

Initial stages through high-pt theory and data

Author: Magdalena Djordjevic[None]

Corresponding Author: magda@ipb.ac.rs

12+3 min for discussions, online talk

Forward Physics: Diffraction, Pomeron and Odderon / **63**

Pomerons Interactions

Author: Carlos Contreras Hidalgo[None]

Corresponding Author: carlos.contreras@usm.cl

15+5 min for discussions, on-site talk

Forward Physics: Diffraction, Pomeron and Odderon / **64**

Central Exclusive Production at LHCb

Author: Tomasz Szumlak[1]

[1] *AGH University of Krakow (PL)*

Corresponding Author: szumlak@agh.edu.pl

15+5 min for discussions, online talk

Forward Physics: Diffraction, Pomeron and Odderon / **66**

Vector Glueballs in Holographic QCD

Author: Florian Hechenberger[None]

Corresponding Author: florian.hechenberger@tuwien.ac.at

12+3 min for discussions, online talk

Forward Physics: Diffraction, Pomeron and Odderon / **67**

Physics with tagged forward protons in proton-proton collisions at RHIC

Corresponding Author: guryn@bnl.gov

12+3 min for discussions, on-site talk

Forward Physics: Diffraction, Pomeron and Odderon / **68**

Recent results from CMS PPS

Author: Christophe Royon[1]

[1] *The University of Kansas (US)*

Corresponding Author: christophe.royon@cern.ch

Collectivity in high energy collisions: Jets and flows / **17**

Nuclear modification factors and the Cronin effect

Author: Thomas Trainor[1]

[1] *University of Washington, Seattle*

Corresponding Author: ttrainor99@gmail.com

15+5 min for discussion, on-site talk

Collectivity in high energy collisions: Jets and flows / **18**

The smallest drop of QGP: thermodynamic properties of p-Pb collisions

Author: Fernando Gardim[1]

[1] *Federal University of Alfenas*

Corresponding Author: fernando.gardim@unifal-mg.edu.br

12+3 min for discussions, online talk

Collectivity in high energy collisions: Jets and flows / 19

Simulating heavy-ion collisions at BES energies

Author: Mayank Singh[1]

[1] *University of Minnesota*

Corresponding Author: singhmayank23@hotmail.com

12+3 min for discussions, online talk

Collectivity in high energy collisions: Jets and flows / 20

Study of η/s through high-p tomography

Author: Bithika Karmakar[1]

[1] *Institute of Physics Belgrade*

Corresponding Author: bithika@ipb.ac.rs

12+3 min for discussions, on-site presentation

Partially supported by an EMMI grant to ISMD 2023.

Collectivity in high energy collisions: Jets and flows / 25

Recent results on jets and collective phenomena in ALICE experiment

Author: Marek Bombara[1]

[1] *Pavol Jozef Safarik University (SK)*

Corresponding Author: marek.bombara@cern.ch

12+3 min for discussions, on-site talk

Collectivity in high energy collisions: Jets and flows / 23

Recent Jet Measurements in Pb-Pb Collisions with ALICE

Author: Archita Rani Dash[1]

[1] *Westfälische Wilhelms-Universität Münster*

Corresponding Author: archita.rani.dash@cern.ch

Partially supported by an EMMI grant to ISMD 2023.

Winner of the best young speaker prize at ISMD23.

A certificate of recognition and a financial prize of 200 CHF, sponsored by the MDPI Journal Universe has been awarded to the best presentation at ISMD 23. Candidates for this prize included students and postdocs without permanent jobs. The selection has been done by the International and Regional Advisory Committees of ISMD and the winner has been announced at the closing of the conference:

Ms. Archita Rani Dash Ph.D. (University of Münster, Münster, Germany)

for her talk entitled

Recent Jet Measurements in Pb-Pb Collisions with ALICE

has been selected as the best junior speaker of the MDPI Journal Universe at ISMD 2023.

Congratulations!

Detailed description: 8+2 min for discussions, on-site talk

Cosmic ray and astroparticle physics / **44**

Glueball Dark Matter

Author: Roman Pasechnik[1]

[1] *Lund university*

Corresponding Author: roman.pasechnik@cern.ch

15+5 min for discussions, on-site presentation

Cosmic ray and astroparticle physics / **51**

The status of the GRAND experiment

Author: Charles Timmermans[None]

Corresponding Author: c.timmermans@science.ru.nl

15+5 min for discussions, on-site talk

Cosmic ray and astroparticle physics / **49**

Highlights from the Pierre Auger Observatory

Corresponding Author: sergey.vorobyev@ung.si

15+5 min for discussions, online talk

Cosmic ray and astroparticle physics / **48**

Ultra-high-energy hadronic physics at the Pierre Auger Observatory

Author: Jan Ebr[1]

[1] *Institute of Physics, Prague*

Corresponding Author: ebr@fzu.cz

12+3 min for discussions, online talk

Cosmic ray and astroparticle physics / **50**

Pacific Ocean Neutrino Experiment (P-ONE): status and development

Author: Pawel Malecki[1]

[1] *INP PAS Kraków, PL*

Corresponding Author: pawel.malecki@cern.ch

13+2 min for discussions, online talk

Femtoscopy / **126**

Heavy-ion stopping and limiting-fragmentation scaling

Corresponding Author: wolschin@uni-hd.de

12+3 min for discussions, on-site contribution

Femtoscopy / **127**

Relativistic spin-(magneto)hydrodynamics

Author: Amaresh Jaiswal[1]

[1] *National Institute of Science Education and Research*

Corresponding Author: jaiswal.amaresh@gmail.com

12+3 min for discussions, on-site talk

Femtoscopy / **129**

Event-by-event investigation of the two-particle source function in 2.76 TeV PbPb collisions with EPOS

Author: Balazs Korodi[1]

[1] *Eotvos Lorand University (HU) and The Ohio State University (USA)*

Corresponding Author: balazs.korodi@cern.ch

12+3 min for discussions, online talk

Femtoscopy / **118**

ALICE upgrade with Forward Calorimeter - exploring CGC and ultimately low-x region

Author: Ken Oyama[1]

[1] *Nagasaki Inst. of Applied Science (JP)*

Corresponding Author: ken.oyama@cern.ch

12+3 min for discussions, on-site talk

Femtoscopy / **86**

Femtoscopy for the NAPLIFE nano-fusion project?

Author: Laszlo Pal Csernai[1]

[1] *University of Bergen*

Corresponding Author: laszlo@csernai.no

12+3 min for discussions, on-site talk

Femtoscopy / **128**

Measurement of Two-Particle Correlations and Flow Coefficients in High Multiplicity e+e- Collisions Using Archived ALEPH Data at 91-209 GeV

Author: Yu-Chen (Janice) Chen[1]

[1] *Massachusetts Institute of Technology*

Corresponding Author: yu-chen.chen@cern.ch

12+3 min for discussions, online talk

Forward Physics: Diffraction, Pomeron and Odderon / 69

Cross-checking Odderon signals at small values of four-momentum transfer

Author: Tamas Csorgo[1]

[1] *MATE Institute of Technology Karoly Robert Campus (HU)*

Corresponding Author: tamas.ferenc.csorgo@cern.ch

12+3 min for discussion, on-site talk

Forward Physics: Diffraction, Pomeron and Odderon / 71

Lévy alpha-stable model for the non-exponential low-|t| proton-proton differential cross section

Author: Istvan Szanyi[1]

[1] *Eötvös University, Wigner RCP, MATE KRC*

Corresponding Author: istvan.szanyi@cern.ch

12+3 min for discussions, on-site talk.

Forward Physics: Diffraction, Pomeron and Odderon / 70

Model independent Odderon results based on new TOTEM data at 8 TeV

Author: Andras Ster[1]

[1] *Wigner RCP, Budapest*

Corresponding Author: ster.andras@wigner.hu

12+3 min for discussions, on-site talk

Forward Physics: Diffraction, Pomeron and Odderon / 73

D0-TOTEM Odderon observation: an update

Author: Kenneth Osterberg[1]

[1] *Helsinki Institute of Physics (FI)*

Corresponding Author: kenneth.osterberg@cern.ch

12+3 min for discussions, on-site talk

Forward Physics: Diffraction, Pomeron and Odderon / **72**

Recent results from the TOTEM experiment

Author: Frigyes Janos Nemes[1]

[1] *CERN (also at Wigner RCP Budapest, Hungary)*

Corresponding Author: frigyes.janos.nemes@cern.ch

12+3 min for discussions, on-site talk

Forward Physics: Diffraction, Pomeron and Odderon / **74**

Structure of the real amplitude in forward pp scattering at the LHC

Author: Anderson Kendi[1]

[1] *UFRJ-Brazil*

Corresponding Author: anderson.kendi@gmail.com

12+3 min for discussions, online talk

Hadronic final states in high pT interactions / **38**

Heavy flavor and quarkonia from experiments at RHIC

Author: Sonia Kabana[1]

[1] *Instituto De Alta Investigación, Universidad de Tarapacá (CL)*

Corresponding Author: sonja.kabana@cern.ch

12+3 min for discussions, planned as an on-site talk, but realized as an online talk.

Hadronic final states in high pT interactions / **39**

Jets in hot nuclear matter

Author: Adam Takacs[1]

[1] *Heidelberg University*

Corresponding Author: takacs@thphys.uni-heidelberg.de

12+3 min for discussions, online talk

Hadronic final states in high pT interactions / **42**

DREENA: A State-of-the-Art Tomography Framework for Unveiling the Properties of Quark-Gluon Plasma

Author: Dusan Zigic[1]

[1] *Institute of Physics Belgrade*

Corresponding Author: zigic@ipb.ac.rs

8+2 min for discussions, on-site presentation.

Partially supported by an EMMI grant to ISMD 2023.

Hadronic final states in high pT interactions / **41**

Heavy flavor physics at the sPHENIX experiment

Author: Zhaozhong Shi[1]

[1] *Los Alamos National Laboratory*

Corresponding Author: zhaozhongshi@lanl.gov

12+3 min for discussions, online talk

Hadronic final states in high pT interactions / **40**

Centrality bias or final state effects ? –study of high pT π0 in d+Au collisions at 200 GeV

Author: Zhandong Sun[None]

Corresponding Author: sunzd@rcf.rhic.bnl.gov

8+2 min for discussions, on-site presentation

Hadronic final states in high pT interactions / **43**

Nuclear modification factor of inclusive charged particles in Au+Au collisions at √sN N = 27 GeV with the STAR experiment

Author: Alisher Aitbayev[None]

Corresponding Author: a.ali.970424@gmail.com

12+3 min for discussion, on-site presentation

Collectivity in high energy collisions: Jets and flows / **27**

Collectivity in small collisions systems (soft probes) - Experimental overview

Author: Debojit Sarkar[1]

[1] *Niels Bohr Institute, University of Copenhagen, Denmark*

Corresponding Author: debojit.sarkar@cern.ch

15+5 min for discussions, on-site talk

Collectivity in high energy collisions: Jets and flows / 28

Building a fluid particle by particle: Real time imaging of the emergent hydrodynamic behavior of few strongly-interacting fermions

Author: Giuliano Giacalone[1]

[1] *Universität Heidelberg*

Corresponding Author: giulianogiacalone@gmail.com

12+3 min for discussions, online talk

Collectivity in high energy collisions: Jets and flows / 29

Applicability of hydrodynamics in small and large systems

Authors: Victor Ambrus[1]; Victor Eugen Ambrus[2]

[1] *West University of Timișoara*

[2] *West University of Timisoara (RO)*

Corresponding Authors: victor.eugen.ambrus@cern.ch, victor.ambrus@e-uvt.ro

12+3 min for discussion, online talk

Collectivity in high energy collisions: Jets and flows / 30

Recent Flow Results from STAR Experiment at RHIC

Author: Vinh Luong[1]

[1] *Joint Institute for Nuclear Research*

Corresponding Author: lbavinh@gmail.com

12+3 min for discussions, on-site talk

Collectivity in high energy collisions: Jets and flows / 21

Assessing the ultracentral flow puzzle in hydrodynamic modeling of heavy-ion collisions

Author: Andre Veiga Giannini[None]

Corresponding Author: avgiannini@gmail.com

12+3 min for discussions, online talk

Collectivity in high energy collisions: Jets and flows / 22

Scaling behaviour of dN/dy in high energy collisions

Author: Gábor Kasza[None]

Corresponding Author: kaszagabor.24@gmail.com

8+2 min for discussions, on-site presentation

Collectivity in high energy collisions: Jets and flows / 24

Correlations of wave intensities and particle numbers - before dinner talk

Author: Sandor Varro[None]

Corresponding Author: varro.sandor@wigner.hu

12+3 min for discussions, on-site talk

Multiparticle correlations and fluctuations / 81

Diquarks and heavy hadron production in heavy ion collisions

Author: Su Houng Lee[None]

Corresponding Author: suhoung@gmail.com

15+5 min for discussion, on-site contribution

Multiparticle correlations and fluctuations / 82

Methods and Results on Conserved-Charge Fluctuations from RHIC-BES and FXT

Author: Toshihiro Nonaka[1]

[1] *University of Tsukuba*

Corresponding Author: nonaka.toshihiro.ge@u.tsukuba.ac.jp

15+5 min for discussiions, on-site talk.

Partially supported by an EMMI grant to ISMD 2023.

Multiparticle correlations and fluctuations / **83**

Multiparton picture of harmonic flow decorrelation in rapidity in pp collisions at the LHC

Author: Wojciech Broniowski[None]

Corresponding Author: wojciech.broniowski@ifj.edu.pl

15+5 min for discussions, on-sitet talk

Multiparticle correlations and fluctuations / **84**

A quantum generalization of the Cooper-Frye formula

Author: Dmitry Anchishkin[1]

[1] *Bogolyubov Institute for Theoretical Physics (ITP)*

Corresponding Author: dmitry.anchishkin@cern.ch

12+3 min online talk

Multiparticle correlations and fluctuations / **132**

Search for New Physics with Multiparticle Correlations and Cosmological Analogies

Author: Edward Sarkisyan-Grinbaum[1]

[1] *University of Texas at Arlington (US)*

Corresponding Author: edward.sarkisyan-grinbaum@cern.ch

12+3 min for discussions, on-site talk

Proton structure, small-x and large-x physics / **120**

Excess of low-kT photons: the puzzle lasting four decades

Author: Boris Kopeliovich[None]

Corresponding Author: boris.kopeliovich@gmail.com

12+3 min for discussions, on-site talk

Proton structure, small-x and large-x physics / **121**

The role of the underlying event in the heavy-flavor baryon enhancement

Corresponding Author: vertesi.robert@wigner.hu

12+3 min for discussions, on-site talk.

Partial support of this talk by MVM NPP, Paks, Hungary, https://atomeromu.mvm.hu/en/ is greatfully acknowledged by the Organizers of ISMD 2023.

Proton structure, small-x and large-x physics / **122**

New H1 measurements of event shape observables in DIS

Author: Radek Zlebcik[1]

[1] *Deutsches Elektronen-Synchrotron (DE)*

Corresponding Author: zlebcik@ipnp.mff.cuni.cz

12+3 min for discussion, on-site talk

Proton structure, small-x and large-x physics / **123**

Pion screening mass in a magnetized medium

Author: Javier Jesus Rendon[None]

Corresponding Author: jesus.rendon@correo.nucleares.unam.mx

12+3 min for discussions, on-site talk

Proton structure, small-x and large-x physics / **124**

BSQ Hydrodynamics and Challenges with a 4D Equation of State

Author: Christopher Plumberg[1]

[1] *Pepperdine University*

Corresponding Author: christopher.plumberg@pepperdine.edu

12+3 min online talk

Proton structure, small-x and large-x physics / 125

Recent results on Jet-medium interaction at RHIC

Author: NIHAR RANJAN Sahoo[1]

[1] *Texas A&M University*

Corresponding Author: nihar@rcf.rhic.bnl.gov

Physics of X17 and other beyond standard model states / 105

Collider Searches for X17 and Other Light Gauge Bosons

Author: Jonathan Lee Feng[1]

[1] *University of California Irvine (US)*

Corresponding Author: jlf@uci.edu

12+3 min for discussions, online talk

Physics of X17 and other beyond standard model states / 106

Search for the resonant X17 boson production in PADME Run III

Author: Mauro Raggi[1]

[1] *LNF INFN*

Corresponding Authors: mauro.raggi@uniroma1.it, mauro.raggi@roma1.infn.it, mauro.raggi@cern.ch

12+3 min for discussion, on-site talk

Physics of X17 and other beyond standard model states / 107

Searching for the X17 boson with magnetic selection

Author: Tibor Kibedi[1]

[1] *Australian National University*

Corresponding Author: tibor.kibedi@anu.edu.au

12+3 min for discussions, on-site talk

Physics of X17 and other beyond standard model states / 108

Searches for new physics in the Higgs sector at ATLAS

Author: Anna Kaczmarska[1]

[1] *Polish Academy of Sciences (PL)*

Corresponding Author: anna.kaczmarska@cern.ch

12+3 min for discussions, online talk

Physics of X17 and other beyond standard model states / 97

The construction of the X17 spectrometer at CTU in Prague

Author: Hugo Natal Da Luz[1]

[1] *Czech Technical University in Prague*

Corresponding Author: hugonluz@cern.ch

12+3 min for discussions, on-site talk

Physics of X17 and other beyond standard model states / 110

Proposal for an electromagnetic mass formula for the X17 particle

Author: Sandor Varro[None]

Corresponding Author: varro.sandor@wigner.hu

12+3 min for discussions, on-site talk

Important new developments in HEP / 111

Overview of underground and ion accelerator facilities for nuclear physics in Asia

Author: Byungsik Hong[1]

[1] *Korea University (KR)*

Corresponding Author: byungsik.hong@cern.ch

15+5 min for discussions, on-site talk

Important new developments in HEP / **112**

MUonE experiment

Author: Mateusz Jacek Goncerz[1]

[1] *Polish Academy of Sciences (PL)*

Corresponding Author: mateusz.goncerz@cern.ch

12+3 min for discussions, on-site talk

Important new developments in HEP / **113**

Electromagnetic radiation in ALICE at the LHC

Author: Daiki Sekihata[1]

[1] *University of Tokyo (JP)*

Corresponding Author: daiki.sekihata@cern.ch

12+3 min for discussions, online talk

Important new developments in HEP / **114**

Non prompt J/psi production as a function of multiplicity in pp collision at 13 TeV with ALICE experiment

Corresponding Author: wenda.guo@cern.ch

12+3 min for discussions, online talk

Important new developments in HEP / **115**

Phenomenological Equation of State of Strongly Interacting Matter with Modified Excluded-Volume Mechanism

Author: Oleksandr Vitiuk[1]

[1] *University of Wroclaw (PL)*

Corresponding Author: oleksandr.vitiuk@cern.ch

8+2 min for discussions, online talk

Important new developments in HEP / **116**

Relativistic two-particle problem in the Lagrange formalism

Corresponding Author: and.kosh59@gmail.com

12+3 min for discussions, on-site talk

Important new developments in HEP / **117**

Closing of ISMD 2023 and the future of ISMD

Author: Stefan Kluth[1]

[1] *Max Planck Society (DE)*

Corresponding Author: skluth@mpp.mpg.de

Science Outreach (outreach to secondary schools) / **1**

Science outreach with cosmic rays in the Netherlands

Corresponding Author: c.timmermans@science.ru.nl

Science Outreach (outreach to secondary schools) / **2**

Standard Model of Particle Physics and Rubik's 4x4x4 cube

Author: Tamás Csörgő[1]

[1] *MATE Institute of Technology Karoly Robert Campus (HU)*

Corresponding Author: tamas.ferenc.csorgo@cern.ch

Science Outreach (outreach to secondary schools) / **3**

The Large Hadron Collider and the structure of the proton

Corresponding Author: christophe.royon@cern.ch

Science Outreach (outreach to secondary schools) / 4

New physics –what it is and how we are looking for it

Corresponding Author: rafal.staszewski@ifj.edu.pl

Science Outreach (outreach to secondary schools) / 5

Find your own Odderon!

Corresponding Author: georgina.zsori@gmail.com

Forward Physics: Diffraction, Pomeron and Odderon / 65

Reggeometric pomeron model and light vector meson photoproduction in UPCs collisions at the LHC

Author: Magno Machado[1]

[1] *IF-UFRGS*

Corresponding Author: magnus@if.ufrgs.br

12+3 min for discussions, online talk

Proton structure, small-x and large-x physics / 80

BSM physics using photon-photon fusion processes in UPC in Pb+Pb collisions with the ATLAS detector

Author: Klaudia Maj[1]

[1] *AGH University of Krakow (PL)*

Corresponding Author: klaudia.burka@cern.ch

12+3 min for discussions, online contribution