

# Workshop on forward physics and QCD with LHC, EIC, and cosmic rays



## Report of Contributions

Contribution ID: 1

Type: **not specified**

## **Introduction to workshop**

*Wednesday, January 20, 2021 8:00 AM (20 minutes)*

**Presenter:** WEISS, Christian (Jefferson Lab)

Contribution ID: 2

Type: **not specified**

## From pA to eA at EIC

*Wednesday, January 20, 2021 8:20 AM (30 minutes)*

**Presenter:** SIEVERT, Matthew (University of Illinois at Urbana-Champaign)

**Session Classification:** From pA at RHIC/LHC to eA at EIC: What can pA do to prepare for eA?

Contribution ID: 3

Type: **not specified**

## Very forward phenomena in pA and UPC

*Wednesday, January 20, 2021 10:50 AM (30 minutes)*

**Presenter:** STRIKMAN, Mark (Penn State University)

**Session Classification:** From pA at RHIC/LHC to eA at EIC: What can pA do to prepare for eA?

Contribution ID: 4

Type: **not specified**

## **LHC/Alice results relevant to EIC**

*Wednesday, January 20, 2021 8:50 AM (30 minutes)*

**Presenter:** MASSACRIER, Laure Marie (Université Paris-Saclay (FR))

**Session Classification:** From pA at RHIC/LHC to eA at EIC: What can pA do to prepare for eA?

Contribution ID: 5

Type: **not specified**

## **Proton-lead and photo nuclear collisions at LHC**

**Presenter:** MURRAY, Michael (The University of Kansas (US))

Contribution ID: 6

Type: **not specified**

## From pA to eA at EIC

**Session Classification:** From pA at RHIC/LHC to eA at EIC: What can pA do to prepare for eA?

Contribution ID: 7

Type: **not specified**

## **Proton-lead and photo nuclear collisions at LHC**

*Wednesday, January 20, 2021 9:20 AM (40 minutes)*

**Presenter:** MURRAY, Michael (The University of Kansas (US))

**Session Classification:** From pA at RHIC/LHC to eA at EIC: What can pA do to prepare for eA?



Contribution ID: 8

Type: **not specified**

## **Transverse momentum dependence of single spin asymmetries for very forward neutron production in polarized p+p collisions at $\sqrt{s} = 200$ GeV**

*Friday, January 22, 2021 8:00 AM (30 minutes)*

**Presenter:** Dr MULILO, Benard

**Session Classification:** Diffraction and low-x physics

Contribution ID: 9

Type: **not specified**

## Discussion

*Wednesday, January 20, 2021 11:20 AM (1 hour)*

**Session Classification:** From pA at RHIC/LHC to eA at EIC: What can pA do to prepare for eA?

Contribution ID: **10**

Type: **not specified**

## Photon Exchange

*Wednesday, January 20, 2021 1:00 PM (30 minutes)*

**Presenter:** BALDENEGRO BARRERA, Cristian (The University of Kansas (US))

**Session Classification:** Ultraperipheral pA/AA and photoproduction gamma-p/gamma-A

Contribution ID: 11

Type: **not specified**

## **Photoproduction of vectors mesons**

*Wednesday, January 20, 2021 1:30 PM (30 minutes)*

**Presenter:** Prof. TAPIA TAKAKI, Daniel (University of Kansas)

**Session Classification:** Ultrapерipheral pA/AA and photoproduction gamma-p/gamma-A

Contribution ID: 12

Type: **not specified**

## **Non-elastic contributions for the production of high-mass pairs**

*Wednesday, January 20, 2021 2:30 PM (30 minutes)*

**Presenter:** DA SILVEIRA, Gustavo Gil (Universidade do Estado do Rio de Janeiro (BR))

**Session Classification:** Ultraperipheral pA/AA and photoproduction gamma-p/gamma-A

Contribution ID: 13

Type: **not specified**

## Discussion

*Wednesday, January 20, 2021 3:00 PM (1 hour)*

**Session Classification:** Ultrapерipheral pA/AA and photoproduction gamma-p/gamma-A

Contribution ID: 14

Type: **not specified**

## Cosmic ray physics experimental review

*Thursday, January 21, 2021 8:00 AM (30 minutes)*

**Presenter:** SAKO, Takashi (Institute for Cosmic Ray Research, University of Tokyo)

**Session Classification:** Cosmic rays: Joint physics studies with collider experiments, simulation tools

Contribution ID: 15

Type: **not specified**

## **pO run for cosmic rays and impact on muon puzzle**

*Thursday, January 21, 2021 8:30 AM (30 minutes)*

**Presenter:** Dr DEMBINSKI, Hans Peter (TU Dortmund)

**Session Classification:** Cosmic rays: Joint physics studies with collider experiments, simulation tools



Contribution ID: 16

Type: **not specified**

## Cosmic Ray MC

*Thursday, January 21, 2021 9:00 AM (30 minutes)*

**Presenter:** Dr PIEROG, Tanguy (KIT)

**Session Classification:** Cosmic rays: Joint physics studies with collider experiments, simulation tools

Contribution ID: 17

Type: **not specified**

## Discussion

*Thursday, January 21, 2021 9:30 AM (1 hour)*

**Session Classification:** Cosmic rays: Joint physics studies with collider experiments, simulation tools

Contribution ID: **18**

Type: **not specified**

## **Coherent processes on light ions**

*Thursday, January 21, 2021 11:00 AM (30 minutes)*

**Presenter:** SCOPETTA, sergio

**Session Classification:** Coherent and diffractive scattering on heavy and light nuclei

Contribution ID: **19**

Type: **not specified**

## **Nuclear shadowing in coherent processes**

*Thursday, January 21, 2021 11:30 AM (30 minutes)*

**Presenter:** GUZEY, Vadim (NRC Kurchatov Institute PNPI (RU))

**Session Classification:** Coherent and diffractive scattering on heavy and light nuclei

Contribution ID: 20

Type: **not specified**

## Photoproduction at EIC

*Thursday, January 21, 2021 2:00 PM (30 minutes)*

**Presenter:** STEVENS, Justin (College of William and Mary)

**Session Classification:** Coherent and diffractive scattering on heavy and light nuclei

Contribution ID: 21

Type: **not specified**

## Discussion

*Thursday, January 21, 2021 2:30 PM (1 hour)*

**Session Classification:** Coherent and diffractive scattering on heavy and light nuclei

Contribution ID: 22

Type: **not specified**

## **CMS diffractive results**

*Friday, January 22, 2021 8:30 AM (30 minutes)*

**Presenter:** SUNAR CERCI, Deniz (Adiyaman University (TR) - Istanbul University (TR))

**Session Classification:** Diffraction and low-x physics

Contribution ID: 23

Type: **not specified**

## **Gluon TMDs at small x**

*Friday, January 22, 2021 11:30 AM (30 minutes)*

**Presenter:** Dr CELIBERTO, Francesco Giovanni (ECT\*/FBK Trento & INFN-TIFPA)

**Session Classification:** Diffraction and low-x physics



Contribution ID: 24

Type: **not specified**

## FOCAL

*Saturday, January 23, 2021 8:00 AM (30 minutes)*

**Presenter:** LOIZIDES, Constantinos (ORNL)

**Session Classification:** Forward detectors: What exists? What can be built for EIC?

Contribution ID: 25

Type: **not specified**

## **Elastic and diffractive proton—proton scattering at RHIC**

*Friday, January 22, 2021 9:00 AM (30 minutes)*

**Presenter:** Dr GURYN, Wlodek (Brookhaven National Laboratory)

**Session Classification:** Diffraction and low-x physics

Contribution ID: 26

Type: **not specified**

## **Factorization, resummation and CGC negative cross section problem**

*Friday, January 22, 2021 1:45 PM (20 minutes)*

**Presenter:** LIU, Hao-yu

**Session Classification:** Diffraction and low-x physics

Contribution ID: 27

Type: **not specified**

## Effective field theory for heavy ions

*Friday, January 22, 2021 1:15 PM (30 minutes)*

**Presenter:** VAIDYA, varun

**Session Classification:** Diffraction and low-x physics

Contribution ID: 28

Type: **not specified**

## **Recent results in low-x (exclusive VM)**

*Friday, January 22, 2021 11:00 AM (30 minutes)*

**Presenter:** HENTSCHINSKI, Martin (Universidad de las Americas, Puebla)

**Session Classification:** Diffraction and low-x physics

Contribution ID: 29

Type: **not specified**

## Discussion

*Friday, January 22, 2021 2:05 PM (1 hour)*

**Session Classification:** Diffraction and low-x physics

Contribution ID: **30**

Type: **not specified**

## **PPS**

*Saturday, January 23, 2021 9:00 AM (20 minutes)*

**Presenter:** WILLIAMS, Justin Andrew (The University of Kansas (US))

**Session Classification:** Forward detectors: What exists? What can be built for EIC?

Contribution ID: **31**

Type: **not specified**

## **AFP**

*Saturday, January 23, 2021 8:30 AM (30 minutes)*

**Presenter:** LIU, Jesse (University of Chicago)

**Session Classification:** Forward detectors: What exists? What can be built for EIC?



Contribution ID: 32

Type: **not specified**

## Timing detectors

*Saturday, January 23, 2021 9:50 AM (30 minutes)*

**Presenter:** ISIDORI, Tommaso (The University of Kansas (US))

**Session Classification:** Forward detectors: What exists? What can be built for EIC?

Contribution ID: 33

Type: **not specified**

## Very forward hadron spectrometer

*Saturday, January 23, 2021 10:20 AM (30 minutes)*

**Presenter:** ALBROW, Michael (Fermi National Accelerator Lab. (US))

**Session Classification:** Forward detectors: What exists? What can be built for EIC?

Contribution ID: **34**

Type: **not specified**

## **FASER**

*Saturday, January 23, 2021 10:50 AM (30 minutes)*

**Presenter:** KLING, Felix (SLAC)

**Session Classification:** Forward detectors: What exists? What can be built for EIC?

Contribution ID: 35

Type: **not specified**

## Discussion

*Saturday, January 23, 2021 11:20 AM (1 hour)*

**Session Classification:** Forward detectors: What exists? What can be built for EIC?

Contribution ID: **36**

Type: **not specified**

## **Workshop summary and close out**

*Saturday, January 23, 2021 12:20 PM (20 minutes)*

Contribution ID: 37

Type: **not specified**

## **TOTEM/D0 odderon discovery**

*Friday, January 22, 2021 9:30 AM (30 minutes)*

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

**Session Classification:** Diffraction and low-x physics

Contribution ID: **38**

Type: **not specified**

## **Effective gluon mass and strong interaction**

**Session Classification:** Diffraction and low-x physics

Contribution ID: 39

Type: **not specified**

## Forward Physics with LHCb

**Presenter:** EPPLE, Eliane (Los Alamos National Laboratory (US))

**Session Classification:** From pA at RHIC/LHC to eA at EIC: What can pA do to prepare for eA?



Contribution ID: 40

Type: **not specified**

## Coherent and diffractives processes at EIC

**Presenter:** WEISS, Christian (Jefferson Lab)

**Session Classification:** Coherent and diffractive scattering on heavy and light nuclei

Contribution ID: 41

Type: **not specified**

## **EIC forward detection**

*Thursday, January 21, 2021 1:30 PM (30 minutes)*

**Presenter:** Dr JENTSCH, Alexander (Brookhaven National Laboratory, EIC, STAR)

**Session Classification:** Coherent and diffractive scattering on heavy and light nuclei

Contribution ID: 42

Type: **not specified**

## Selected results on forward dijets

*Wednesday, January 20, 2021 10:20 AM (30 minutes)*

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

**Session Classification:** From pA at RHIC/LHC to eA at EIC: What can pA do to prepare for eA?