

CFNS Workshop: High Luminosity-EIC (EIC-Phase II)

Report of Contributions

Contribution ID: 1

Type: **not specified**

Status: where we are and ultimate limits

Tuesday, June 21, 2022 10:00 AM (45 minutes)

Primary author: Dr WILLEKE, Ferdinand (BNL)

Presenter: Dr WILLEKE, Ferdinand (BNL)

Session Classification: Accelerator perspective

Contribution ID: 2

Type: **not specified**

Beam cooling status and challenges; roadman ahead

Tuesday, June 21, 2022 11:00 AM (45 minutes)

Primary author: NAGAITSEV, Sergei (FNAL)

Presenter: NAGAITSEV, Sergei (FNAL)

Session Classification: Accelerator perspective

Contribution ID: 3

Type: **not specified**

High brightness SRF Gun Overview

Tuesday, June 21, 2022 9:15 AM (45 minutes)

Primary author: PETRUSHINA, Irina (Stony Brook University)

Presenter: PETRUSHINA, Irina (Stony Brook University)

Session Classification: Accelerator perspective

Contribution ID: 4

Type: **not specified**

Fixed target at LHCb

Wednesday, June 22, 2022 1:00 PM (40 minutes)

Presenter: SANTIMARIA, Marco (INFN - LNF)

Session Classification: Measurements and systematics

Contribution ID: 5

Type: **not specified**

High precision measurements at BELLE

Wednesday, June 22, 2022 9:00 AM (40 minutes)

Primary author: SEIDL, Ralf (RIKEN)

Presenter: SEIDL, Ralf (RIKEN)

Session Classification: Measurements and systematics

Contribution ID: 6

Type: **not specified**

PDF Fitting at HL-LHC – Limitations from Systematic unncertainties

Wednesday, June 22, 2022 10:40 AM (40 minutes)

Primary author: COOPER-SARKAR, Amanda (Oxford University)

Presenter: COOPER-SARKAR, Amanda (Oxford University)

Session Classification: Measurements and systematics

Contribution ID: 7

Type: **not specified**

Global fits and systematics with CTEQ

Wednesday, June 22, 2022 11:20 AM (40 minutes)

Primary author: HOBBS, Timothy (Fermilab)

Presenter: HOBBS, Timothy (Fermilab)

Session Classification: Measurements and systematics

Contribution ID: 8

Type: **not specified**

Jets measurements

Tuesday, June 21, 2022 2:40 PM (40 minutes)

Primary author: NACHMAN, Benjamin

Presenter: NACHMAN, Benjamin

Session Classification: Measurements and systematics

Contribution ID: 9

Type: **not specified**

Weak mixing angle extractions

Tuesday, June 21, 2022 1:40 PM (40 minutes)

Primary author: NYCZ, Michael (University of Virginia)

Presenter: NYCZ, Michael (University of Virginia)

Session Classification: Measurements and systematics

Contribution ID: 10

Type: **not specified**

SMEFT

Tuesday, June 21, 2022 1:00 PM (40 minutes)

Although all known laboratory phenomena are described by the Standard Model (SM) of particle physics, this theory suffers from poorly understood features. Various models beyond the SM (BSM) have been suggested to address these issues. Since there has been no conclusive evidence for new particles yet, the SM effective field theory can be used to parameterize BSM effects. In this framework, operators built of higher-dimensional interactions of the existing SM particles are introduced together with corresponding Wilson coefficients. In this talk, we focus on dimension-6 semi-leptonic four-fermion operators and demonstrate how asymmetries in neutral-current deep inelastic scattering at the Electron-Ion Collider (EIC) can probe these possible BSM effects. We find that the EIC can provide probes competitive with those coming from LHC Drell-Yan data, and resolve degeneracies that occur in neutral-current Drell-Yan measurements. With a ten-fold luminosity upgrade, these Wilson coefficient constraints become significantly stronger. Designed as a QCD machine, our results show that the EIC also has strong potential for probing BSM physics in ways complementary to the LHC.

Primary author: SIMSEK, Kagan (NorthWestern)

Presenter: SIMSEK, Kagan (NorthWestern)

Session Classification: Measurements and systematics

Contribution ID: 11

Type: **not specified**

Charge lepton flavor violation

Wednesday, June 22, 2022 9:40 AM (40 minutes)

Primary author: ZHANG, Jinlong (Shandong University)

Presenter: ZHANG, Jinlong (Shandong University)

Session Classification: Measurements and systematics

Contribution ID: 12

Type: **not specified**

Intro

Tuesday, June 21, 2022 9:00 AM (10 minutes)

Contribution ID: 13

Type: **not specified**

JAM perspective

Wednesday, June 22, 2022 1:40 PM (40 minutes)

Primary author: SATO, nobuo (Jefferson Lab)

Presenter: SATO, nobuo (Jefferson Lab)

Session Classification: Theory and measurements

Contribution ID: 14

Type: **not specified**

PARTONS (GPDs)

Wednesday, June 22, 2022 3:10 PM (40 minutes)

Primary author: MOUTARDE, Herve (IRFU, CEA)

Presenter: MOUTARDE, Herve (IRFU, CEA)

Session Classification: Theory and measurements

Contribution ID: 15

Type: **not specified**

TMD phenomenology

Wednesday, June 22, 2022 2:30 PM (40 minutes)

Primary author: VLADIMIROV, Alexey (Regensburg U)

Presenter: VLADIMIROV, Alexey (Regensburg U)

Session Classification: Theory and measurements

Contribution ID: **16**

Type: **not specified**

NNPDF perspective

Session Classification: Theory and measurements

Contribution ID: 17

Type: **not specified**

EW correction to the factorization formalism

Wednesday, June 22, 2022 4:05 PM (40 minutes)

Primary author: QIU, Jianwei (Jefferson Lab)

Presenter: QIU, Jianwei (Jefferson Lab)

Session Classification: Theory and measurements

Contribution ID: **18**

Type: **not specified**

x-dependent distributions

Thursday, June 23, 2022 10:10 AM (35 minutes)

Primary author: KARTHIK, Nikhil (BNL)

Presenter: KARTHIK, Nikhil (BNL)

Session Classification: Theory and measurements

Contribution ID: 19

Type: **not specified**

Hadrons, Cosmological Constant, and Type II Superconductors

Thursday, June 23, 2022 9:35 AM (35 minutes)

Primary author: LIU, Keh-Fei (University of kentucky)

Presenter: LIU, Keh-Fei (University of kentucky)

Session Classification: Theory and measurements

Contribution ID: 20

Type: **not specified**

Twist-3

Thursday, June 23, 2022 12:15 PM (35 minutes)

Primary author: BHATTACHARYA, Shohini (Temple University)

Presenter: BHATTACHARYA, Shohini (Temple University)

Session Classification: Theory and measurements

Contribution ID: 21

Type: **not specified**

gluon PDFs

Thursday, June 23, 2022 11:05 AM (35 minutes)

Primary author: SUFIAN, Raza (Jefferson Lab)

Presenter: SUFIAN, Raza (Jefferson Lab)

Session Classification: Theory and measurements

Contribution ID: 22

Type: **not specified**

GPDs

Thursday, June 23, 2022 11:40 AM (35 minutes)

Primary author: CICHY, Krzysztof (DESY Zeuthen)

Presenter: CICHY, Krzysztof (DESY Zeuthen)

Session Classification: Theory and measurements

Contribution ID: 23

Type: **not specified**

Spin

Thursday, June 23, 2022 9:00 AM (35 minutes)

Primary author: ALEXANDROU, Constantia (University of Cyprus)

Presenter: ALEXANDROU, Constantia (University of Cyprus)

Session Classification: Theory and measurements

Contribution ID: 24

Type: **not specified**

Project detector overview and possible bottlenecks

Thursday, June 23, 2022 1:30 PM (35 minutes)

Primary author: LAJOIE, John (Iowa State University)

Presenter: LAJOIE, John (Iowa State University)

Session Classification: Measurements and systematics

Contribution ID: 25

Type: **not specified**

Polarimetry

Thursday, June 23, 2022 3:50 PM (35 minutes)

Primary author: GASKELL, Dave (Jefferson Lab)

Presenter: GASKELL, Dave (Jefferson Lab)

Session Classification: Measurements and systematics

Contribution ID: 26

Type: **not specified**

Relative luminosity

Thursday, June 23, 2022 4:25 PM (35 minutes)

Presenter: ADAM, Jaroslav (BNL)

Session Classification: Measurements and systematics

Contribution ID: 27

Type: **not specified**

Far forward instrumentation

Primary author: MURRAY, Michael (The University of Kansas (US))

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

Session Classification: Measurements and systematics

Contribution ID: 28

Type: **not specified**

DAQ

Thursday, June 23, 2022 3:00 PM (35 minutes)

Primary author: Dr HUANG, Jin (Brookhaven National Lab)

Presenter: Dr HUANG, Jin (Brookhaven National Lab)

Session Classification: Measurements and systematics

Contribution ID: 29

Type: **not specified**

Potential future detector improvements

Thursday, June 23, 2022 2:05 PM (55 minutes)

Primary author: VAVRA, Jerry

Presenter: VAVRA, Jerry

Session Classification: Measurements and systematics