## Electroweak and BSM physics at the EIC



# **Report of Contributions**

Welcome

Contribution ID: 1

Type: not specified

#### Welcome

Wednesday, 6 May 2020 08:40 (20 minutes)

**Presenter:** DESHPANDE, Abhay (Stony Brook University)

Broad overview of EIC

Contribution ID: 2

Type: not specified

#### **Broad overview of EIC**

Wednesday, 6 May 2020 09:00 (30 minutes)

Presenter: HIGINBOTHAM, Douglas (Jefferson Lab)

EIC accelerator overview

Contribution ID: 3

Type: not specified

#### **EIC** accelerator overview

Wednesday, 6 May 2020 09:30 (30 minutes)

Presenters: MONTAG, Christoph (BNL); MONTAG, Christoph (BNL)

 $Electroweak \ and \ \dots \ \ / \ Report \ of \ Contributions$ 

Polarimetry Overview

Contribution ID: 4

Type: not specified

#### **Polarimetry Overview**

Wednesday, 6 May 2020 10:00 (30 minutes)

**Presenter:** GASKELL, Dave

HERA/Collider(ep) physics for fixe ...

Contribution ID: 5

Type: not specified

#### HERA/Collider(ep) physics for fixed target people

Wednesday, 6 May 2020 11:00 (30 minutes)

**Presenter:** SCHMITT, Stefan (DESY)

Impact of EIC on LHC

Contribution ID: 6

Type: not specified

#### Impact of EIC on LHC

Wednesday, 6 May 2020 12:00 (30 minutes)

**Presenter:** HOBBS, Timothy (Southern Methodist University and EIC Center@JLab)

BSM from EIC in the LHCIII era

Contribution ID: 7

Type: not specified

### BSM from EIC in the LHCIII era

BSM and EW with positrons at EIC

Contribution ID: 8

Type: not specified

#### BSM and EW with positrons at EIC

Wednesday, 6 May 2020 13:30 (30 minutes)

Presenter: MELNITCHOUK, Wally (Jefferson Lab)

Theory of lepton flavor violation

Contribution ID: 9

Type: not specified

### Theory of lepton flavor violation

Wednesday, 6 May 2020 14:00 (30 minutes)

**Presenter:** MANTRY, Sonny (University of North Georgia)

Charged lepton flavor and number ...

Contribution ID: 10

Type: not specified

#### Charged lepton flavor and number violation

Wednesday, 6 May 2020 14:30 (30 minutes)

Presenter: ZHANG, Jinlong (Stony Brook University)

Precision weak mixing angle meas ...

Contribution ID: 11

Type: not specified

#### Precision weak mixing angle measurements

Thursday, 7 May 2020 10:00 (30 minutes)

**Presenter:** FREITAS, Ayres (University of Pittsburgh)

Electroweak Axial Structure Funct...

Contribution ID: 13

Type: not specified

#### Electroweak Axial Structure Functions and CKM Unitarity

Wednesday, 6 May 2020 16:30 (30 minutes)

Presenter: SHIELLS, Kyle (University of Manitoba)

Parity violating DIS (g1,g5)

Contribution ID: 14

Type: not specified

## Parity violating DIS (g1,g5)

Wednesday, 6 May 2020 16:00 (30 minutes)

Presenter: ZHAO, Yuxiang (Stony Brook University)

Charge symmetry violation implic ...

Contribution ID: 15

Type: not specified

## Charge symmetry violation implications on extractions

Thursday, 7 May 2020 09:00 (30 minutes)

Presenter: SHANAHAN, Phiala (MIT)

Deuterium run impact on CSV

Contribution ID: 16

Type: not specified

#### **Deuterium run impact on CSV**

Thursday, 7 May 2020 09:30 (30 minutes)

Presenter: DUTTA, Dipangkar (Mississippi State University)

Lorentz and CPT violation in partons

Contribution ID: 17

Type: not specified

#### Lorentz and CPT violation in partons

*Thursday, 7 May 2020 11:00 (30 minutes)* 

Presenter: LUNGHI, Enrico (Indiana University)

Charge-current jet measurements

Contribution ID: 18

Type: not specified

#### **Charge-current jet measurements**

*Thursday, 7 May 2020 11:30 (30 minutes)* 

**Presenter:** ARRATIA, Miguel (University of California, Riverside)

Dark photon searches at EIC

Contribution ID: 19

Type: not specified

#### Dark photon searches at EIC

Thursday, 7 May 2020 12:00 (30 minutes)

Presenter: CORLISS, Ross (SBU)

Time symmetry violation

Contribution ID: 20

Type: not specified

### **Time symmetry violation**

Thursday, 7 May 2020 13:30 (30 minutes)

**Presenter:** SNOW, Michael (Indiana University Bloomington)

Leasons from neutrino physics for ...

Contribution ID: 21

Type: not specified

### Leasons from neutrino physics for BSM searches

Rare decays

Contribution ID: 22

Type: not specified

## Rare decays

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Open session

Contribution ID: 23

Type: not specified

## **Open session**

Thursday, 7 May 2020 14:30 (1h 30m)

Experience of EW and BSM physic ...

Contribution ID: 24

Type: not specified

## Experience of EW and BSM physics at HERA and lessons for the EIC

Wednesday, 6 May 2020 11:30 (30 minutes)

**Presenter:** GALLO, Elisabetta (DESY and University of Hamburg)

Contribution ID: 25

Type: not specified

#### Removing flat directions in SMEFT fits: how polarized electron-ion collider data can complement the LHC

*Thursday, 7 May 2020 14:00 (30 minutes)* 

We study the potential of future Electron-Ion Collider (EIC) data to probe four-fermion operators in the Standard Model Effective Field Theory (SMEFT). The ability to perform measurements with both polarized electron and proton beams at the EIC provides a powerful tool that can disentangle the effects from different SMEFT operators. We compare the potential constraints from an EIC with those obtained from Drell-Yan data at the Large Hadron Collider. We show that EIC data plays an important complementary role since it probes combinations of Wilson coefficients not accessible through available Drell-Yan measurements.

Primary author: WIEGAND, Daniel (Northwestern University/Argonne National Lab)

Presenter: WIEGAND, Daniel (Northwestern University/Argonne National Lab)

C1q and C2q with SoLID

Contribution ID: 26

Type: not specified

#### C1q and C2q with SoLID

Wednesday, 6 May 2020 15:30 (30 minutes)

The SoLID Spectrometer has been designed at JLab in order to provide a high luminosity and highacceptance device for studies of parity-violation in deep inelastic scattering (PVDIS) as well at ft the QCD structure of

the proton in the valance quark region. The program is complementary to that of the EIC, which-focusses more on the lower Bjorken x region. The PVDIS studies will measure the vector-electron and axial quark current, described by the coupling constants  $C_2u$  and  $C_{2d}$ . Since these are small in the Standard Model, a precision measurement provides a good test of BMS physics. Deep inelastic scattering is the only reaction for which the radiative corrections cam be precisely determined. In addition, the method provides a unique way to measure hadron physics at large Bjorken x. Charge symmetry violation can be isolated with a deuterium target and an isovector EMC effect can be studies in a neutron-rich nucleus such as <sup>48</sup>Ca. In addition, quark-quark correlations can be isolated in hight-twist effects. With a proton target, the d/u PDF ratio can be measured directly without making corrections for nuclear targets.

Primary author: Prof. SOUDER, Paul (Syracuse University)

Presenter: Prof. SOUDER, Paul (Syracuse University)