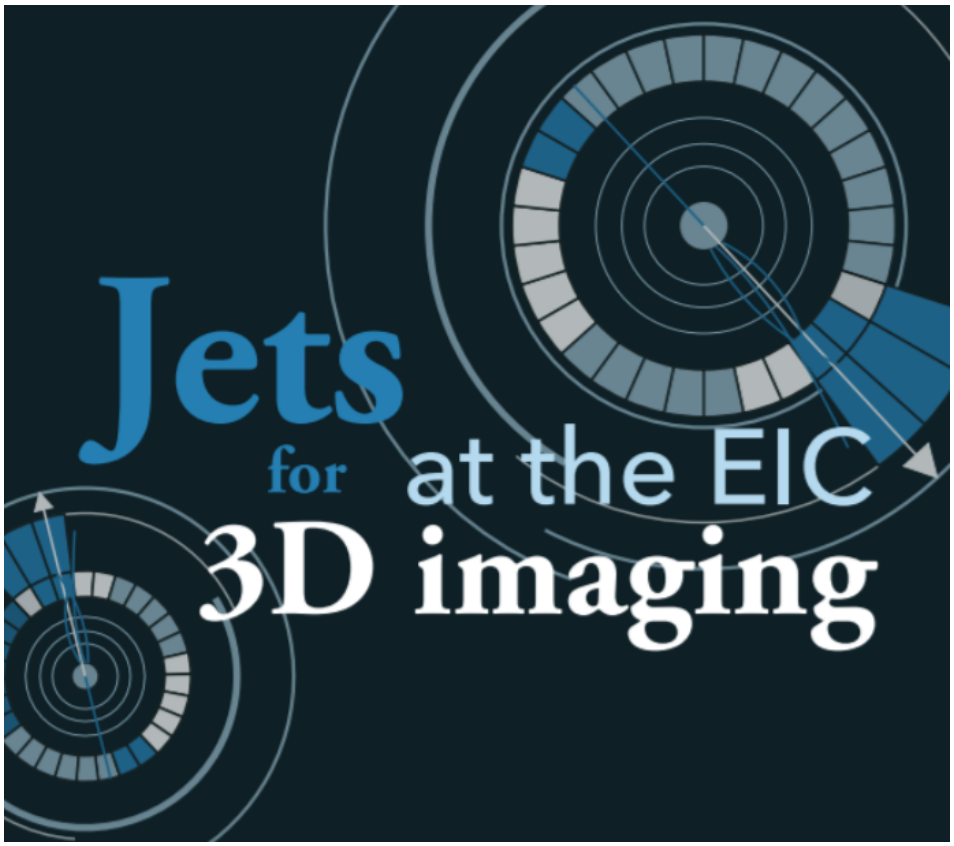
Jets for 3D imaging online workshop

Monday 23 November 2020 - Wednesday 25 November 2020

Online



Book of Abstracts

Contents

6

Angular correlations in exclusive dijet photoproduction in ultra-peripheral PbPb collisions at √ sNN = 5.02 TeV

Author: Alexander Bylinkin[1]

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

Corresponding Author: alexander.bylinkin@gmail.com

Exclusive dijet photoproduction has been measured in ultra-peripheral lead-lead (PbPb) collisions at √sNN = 5.02 TeV. The analysis is based on a data sample corresponding to an integrated luminosity of 0.38 nb−1
collected by the CMS Collaboration. For each dijet, the transverse momentum vectors of the leading and subleading jets are measured and their vector sum and vector difference determined. The azimuthal angle between the vector sum and vector difference defines an angle φ.
The distribution of φ and, in particular, the second Fourier harmonic hcos(2φ)i is measured. The dependence of hcos(2φ)i on the sum of the jet momentum vectors provides the first azimuthal anisotropy measurement related to exclusive dijet production.

20

Angular correlations in exclusive dijet photoproduction in ultra-peripheral PbPb collisions at √ sNN = 5.02 TeV

Corresponding Author: alexander.bylinkin@gmail.com

11

Di-charm-jet for gluon Sivers

Corresponding Author: dingyu.shao@physics.ucla.edu

24

Dijet and single-jet sivers measurements at EIC

Corresponding Author: liangzhphy@gmail.com

23

Discussion session

14

Discussion session

2

Factorization of $e^+e^- \to H\,X$ cross section, differential in P_T and thrust, in the quasi 2-jet limit

Author: Andrea Simonelli[1]

Co-author: Mariaelena Boglione [2]

[1] *University of Torino and INFN Torino*

[2] *University of Turin*

Corresponding Authors: andrea.simonelli@to.infn.it, boglione@to.infn.it

The factorization of the cross section for single hadron production in e^+e^- annihilations is highly non trivial when the transverse momentum of the outgoing hadron with respect to the thrust axis is taken into account. In this talk, I will present a scheme that allows to factorize this cross section as a convolution between a computable hard coefficient and a TMD fragmentation function. The cross section will be presented at NLO and NLL accuracy. This scheme also relates the TMD parton densities defined in 1-hadron and in 2-hadron processes, restoring the possibility to perform global phenomenological studies of TMD physics.

17

Factorization of $e^+e^- \to H\,X$ cross section, differential in P_T and thrust, in the quasi 2-jet limit

Corresponding Author: andrea.simonelli@to.infn.it

12

Heavy flavour and jets at the EIC

Corresponding Author: xuanli@lanl.gov

31

Inclusive jets and dynamical mass effects

Corresponding Author: asignori@jlab.org

33

Jet Fragmentation

Corresponding Author: shabetai@in2p3.fr

18

Jet TMDs or leading jets & hadrons

Corresponding Author: duff.neill@gmail.com

25

Jet charge for spin asymmetries

Corresponding Author: xiaohuiliu@gmail.com

30

Jet substructure at EIC

Corresponding Author: osbornjd@ornl.gov

26

Jets for TMDs/track functions

28

Jets for longitudinal spin physics

Corresponding Author: f-petriello@northwestern.edu

8

Lepton-jet DIS / dijet pp

Corresponding Author: fyuan@lbl.gov

10

Lepton-jet studies with ZEUS data

Corresponding Author: amilkar.quintero@temple.edu

4

Nucleon Tomography and Generalized Parton Distribution at Physical Pion Mass from Lattice QCD

Author: Huey-Wen Lin[1]

[1] *Michigan State University*

Corresponding Author: hwlin@pa.msu.edu

We present the first lattice calculation of the nucleon unpolarized generalized parton distribution (GPD) at the physical pion mass using a lattice ensemble with 2+1+1 flavors of highly improved staggered quarks (HISQ) generated by MILC Collaboration, with lattice spacing $a \approx 0.09$~fm and volume $64^3 \times 96$. We use momentum-smeared sources to improve the signal at nucleon boost momentum $P_z \approx 2.2$~GeV, and report results at 6 nonzero momentum transfers $[0.2, 0.9]$ GeV^2. Nonperturbative renormalization in RI/MOM scheme is used to obtain the quasi-distribution before matching to the lightcone GPDs. The three-dimensional distributions $H(x, Q^2)$ and $E(x, Q^2)$ at $\xi = 0$ are presented, along with the three-dimensional nucleon tomography and impact-parameter–dependent distribution for selected Bjorken x at $\mu = 3$~GeV in $\overline{\text{MS}}$ scheme.

21

Nucleon Tomography and Generalized Parton Distribution at Physical Pion Mass from Lattice QCD

Corresponding Author: hwlin@pa.msu.edu

7

Opening talk: Jets as Jackknives: The Hadronization Tool

Corresponding Author: caidala@umich.edu

29

Polarized jet fragmentation functions

Corresponding Author: kunsu.lee@stonybrook.edu

22

Proton mass

Corresponding Author: sjoosten@anl.gov

13

Summary of jet studies at the EIC

Corresponding Author: bpage@bnl.gov

27

Summary spin jet measurements from RHIC.

Corresponding Author: mariakzurek@lbl.gov

15

TMD and twist-3 factorization in e+e- and Lambda production

Corresponding Author: lpg10@psu.edu

16

TMD-jet measurements in e+e-

Corresponding Author: agvossen@gmail.com

9

TMDs with jets

Corresponding Author: yiannism58@gmail.com

19

Wigner distributions

Corresponding Author: barbara.pasquini@unipv.it

32

sPHENIX jet capabilities and path to EIC

Corresponding Author: dvp@bnl.gov