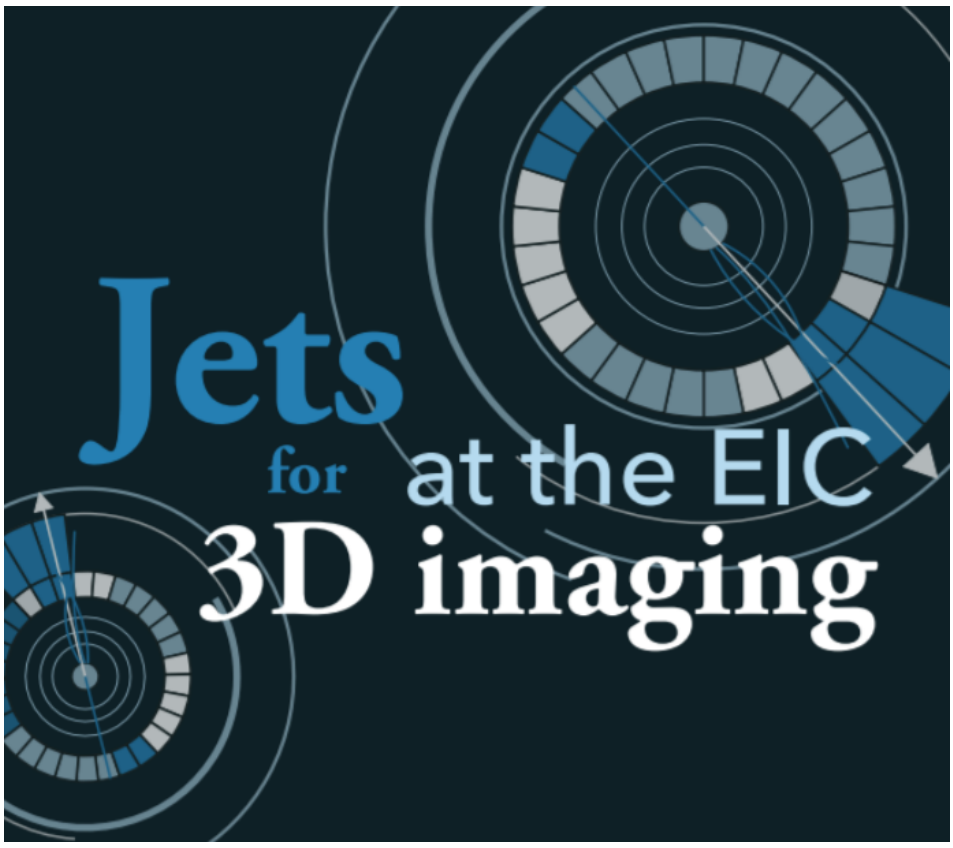
Jets for 3D imaging online workshop



Report of Contributions

https://indico.bnl.gov/e/jetsfor3dimaging

Contribution ID: **2** Type: **not specified**

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

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.

Primary author: SIMONELLI, Andrea (University of Torino and INFN Torino)

Co-author: BOGLIONE, Mariaelena (University of Turin)

Presenter: SIMONELLI, Andrea (University of Torino and INFN Torino)

Contribution ID: **4** Type: **not specified**

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

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.

Primary author: Prof. LIN, Huey-Wen (Michigan State University)

Presenter: Prof. LIN, Huey-Wen (Michigan State University)

Contribution ID: **6** Type: **not specified**

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

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.

Primary author: BYLINKIN, Alexander (The University of Kansas (US))

Presenter: BYLINKIN, Alexander (The University of Kansas (US))

Contribution ID: **7** Type: **not specified**

Opening talk: Jets as Jackknives: The Hadronization Tool

Monday, 23 November 2020 07:00 (35 minutes)

Presenter: AIDALA, Christine (Michigan)

Contribution ID: **8** Type: **not specified**

Lepton-jet DIS / dijet pp

Monday, 23 November 2020 07:35 (25 minutes)

Presenter: YUAN, Feng (Lawrence Berkeley National Laboratory)

Contribution ID: **9** Type: **not specified**

TMDs with jets

Monday, 23 November 2020 08:00 (25 minutes)

Presenter: MAKRIS, Yiannis (INFN PAVIA)

Contribution ID: **10** Type: **not specified**

Lepton-jet studies with ZEUS data

Monday, 23 November 2020 08:25 (25 minutes)

Presenter: QUINTERO, Amilkar (Temple University)

Contribution ID: **11** Type: **not specified**

Di-charm-jet for gluon Sivers

Monday, 23 November 2020 09:05 (25 minutes)

Presenter: Dr SHAO, Dingyu (UCLA)

Contribution ID: **12** Type: **not specified**

Heavy flavour and jets at the EIC

Monday, 23 November 2020 09:30 (25 minutes)

Presenter: Dr LI, Xuan (Los Alamos National Laboratory)

Contribution ID: **13** Type: **not specified**

Summary of jet studies at the EIC

Monday, 23 November 2020 11:15 (25 minutes)

Presenter: PAGE, Brian (Brookhaven National Laboratory)

Contribution ID: **14** Type: **not specified**

Discussion session

Contribution ID: **15** Type: **not specified**

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

Tuesday, 24 November 2020 07:00 (25 minutes)

Presenter: GAMBERG, Leonard (Penn State)

Contribution ID: **16** Type: **not specified**

TMD-jet measurements in e+e-

Tuesday, 24 November 2020 07:25 (25 minutes)

Presenter: VOSSEN, Anselm (Duke University)

Contribution ID: **17** Type: **not specified**

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

Tuesday, 24 November 2020 07:50 (25 minutes)

Presenter: SIMONELLI, Andrea (University of Torino and INFN Torino)

Contribution ID: **18** Type: **not specified**

Jet TMDs or leading jets & hadrons

Monday, 23 November 2020 09:55 (25 minutes)

Presenter: NEILL, Duff (LANL)

Contribution ID: **19** Type: **not specified**

Wigner distributions

Tuesday, 24 November 2020 08:55 (25 minutes)

Presenter: PASQUINI, Barbara (University of Pavia and INFN, Pavia)

Contribution ID: **20** Type: **not specified**

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

Tuesday, 24 November 2020 09:20 (25 minutes)

Presenter: BYLINKIN, Alexander (The University of Kansas (US))

Contribution ID: **21** Type: **not specified**

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

Tuesday, 24 November 2020 10:00 (25 minutes)

Presenter: LIN, Huey-Wen (Michigan State University)

Contribution ID: **22** Type: **not specified**

Proton mass

Tuesday, 24 November 2020 10:25 (25 minutes)

Presenter: JOOSTEN, Sylvester (Argonne National Laboratory)

Contribution ID: **23** Type: **not specified**

Discussion session

Contribution ID: **24** Type: **not specified**

Dijet and single-jet sivers measurements at EIC

Wednesday, 25 November 2020 07:00 (25 minutes)

Presenter: ZHENG, Liang

Contribution ID: **25** Type: **not specified**

Jet charge for spin asymmetries

Wednesday, 25 November 2020 07:25 (25 minutes)

Presenter: LIU, xiaohui

Contribution ID: **26** Type: **not specified**

Jets for TMDs/track functions

Wednesday, 25 November 2020 08:30 (25 minutes)

Presenter: WAALEWIJN, Wouter (University of Amsterdam)

Contribution ID: **27** Type: **not specified**

Summary spin jet measurements from RHIC.

Wednesday, 25 November 2020 08:55 (25 minutes)

Presenter: ZUREK, Maria (Lawrence Berkeley National Laboratory)

Contribution ID: **28** Type: **not specified**

Jets for longitudinal spin physics

Wednesday, 25 November 2020 09:20 (25 minutes)

Presenter: PETRIELLO, Frank (Northwestern University)

Contribution ID: **29** Type: **not specified**

Polarized jet fragmentation functions

Wednesday, 25 November 2020 10:00 (25 minutes)

Presenter: LEE, Kyle

Contribution ID: **30** Type: **not specified**

Jet substructure at EIC

Wednesday, 25 November 2020 10:25 (25 minutes)

Presenter: OSBORN, Joe (Oak Ridge National Laboratory)

Contribution ID: **31** Type: **not specified**

Inclusive jets and dynamical mass effects

Tuesday, 24 November 2020 08:30 (25 minutes)

Presenter: SIGNORI, Andrea (University of Pavia and Jefferson Lab)

Contribution ID: **32** Type: **not specified**

sPHENIX jet capabilities and path to EIC

Monday, 23 November 2020 10:50 (25 minutes)

Presenters: PEREPELITSA, Dennis (University of Colorado Boulder); TBA

Contribution ID: **33** Type: **not specified**

Jet Fragmentation

Wednesday, 25 November 2020 07:50 (25 minutes)

Presenter: SHABETAI, Alexandre (SUBATECH CNRS\IN2P3 France)