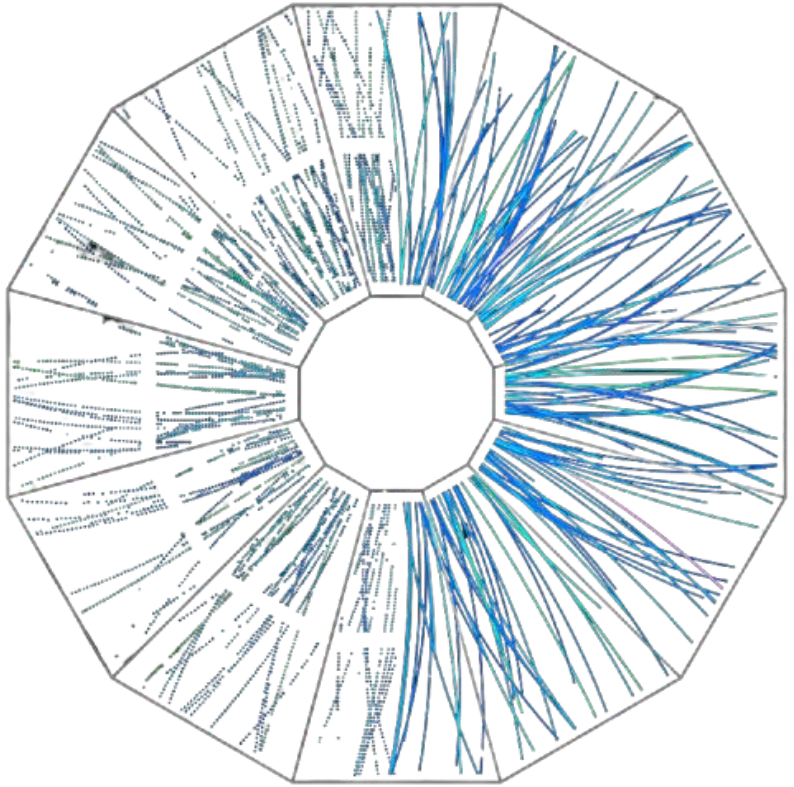
Jet Performance Plots



Dener De Souza Lemos (BNL)

Jets and HF Working Group Meeting

ePIC

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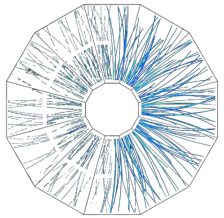


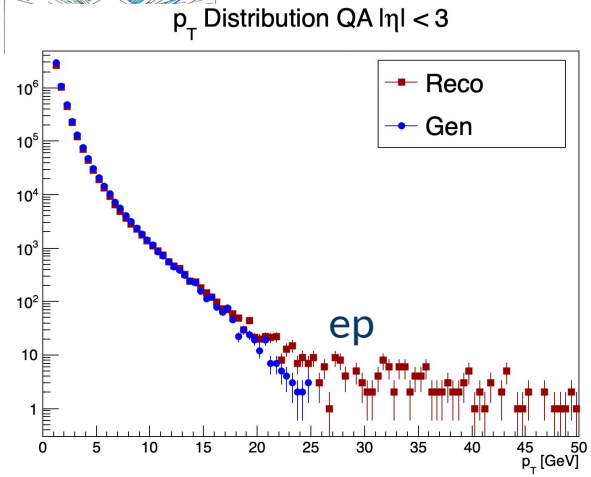
Simulation Details

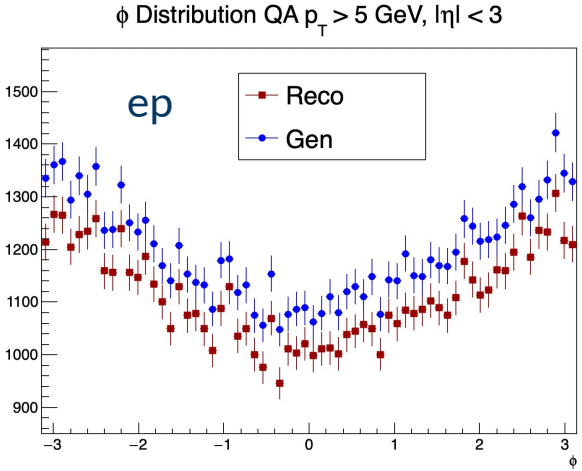
- Energy: 10x100
- Geometry: **25.06.1**
- ep: official production (NCDIS)
  - PYTHIA8.306
    - **q^2 min = 1** and q^2 min = 10
- eAu: official production (DIS)
  - BeAGLE103
    - **$1 < q^2 < 10$** and $10 < q^2 < 100$

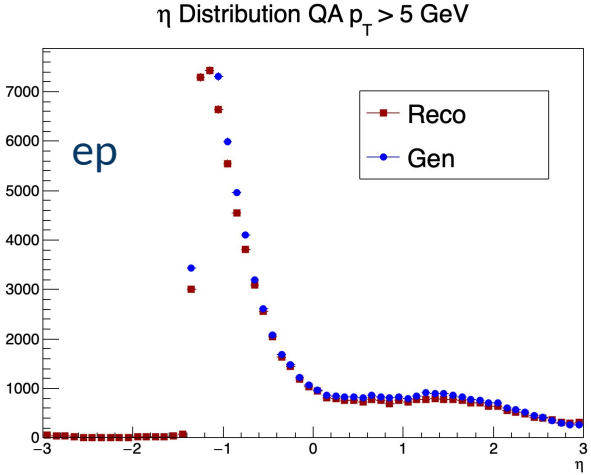
- Jet reconstruction
  - Charged jets:
    - ReconstructedChargedJets
    - GeneratedChargedJets
  - anti-k_T
    - R = 1.0 (default at the jet trees)
  - All jets today!

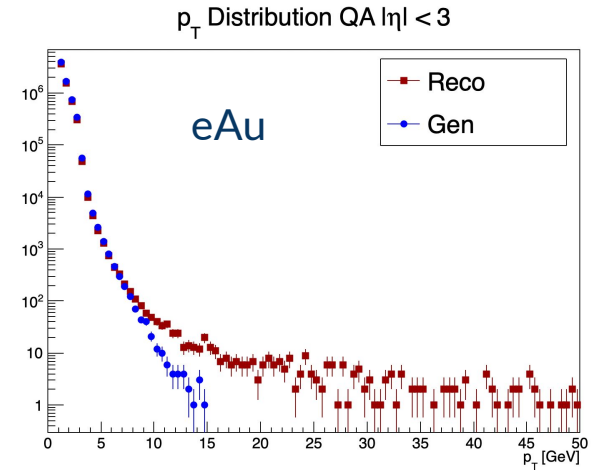
QA quantities

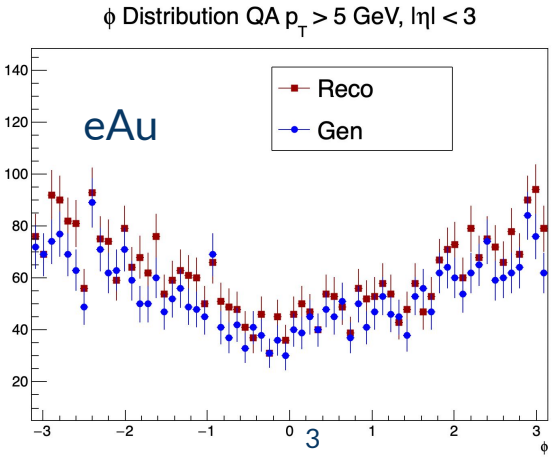
Electron included

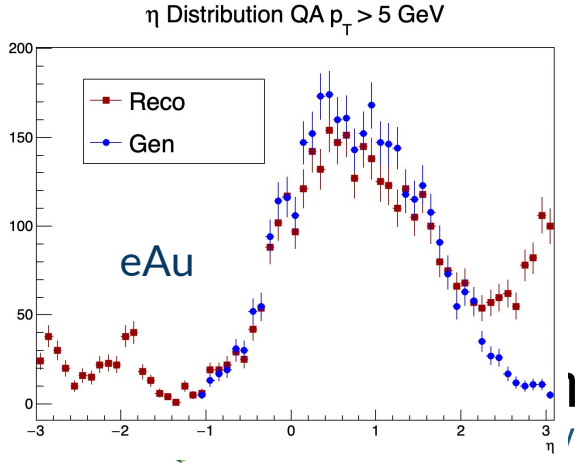


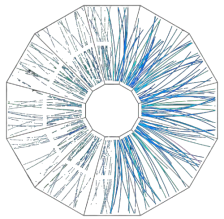




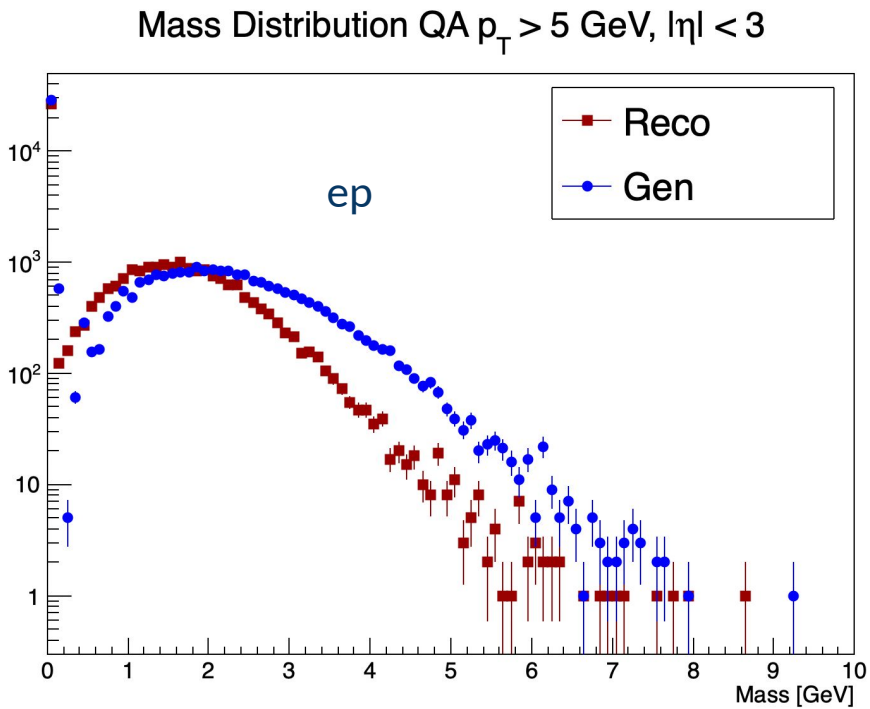


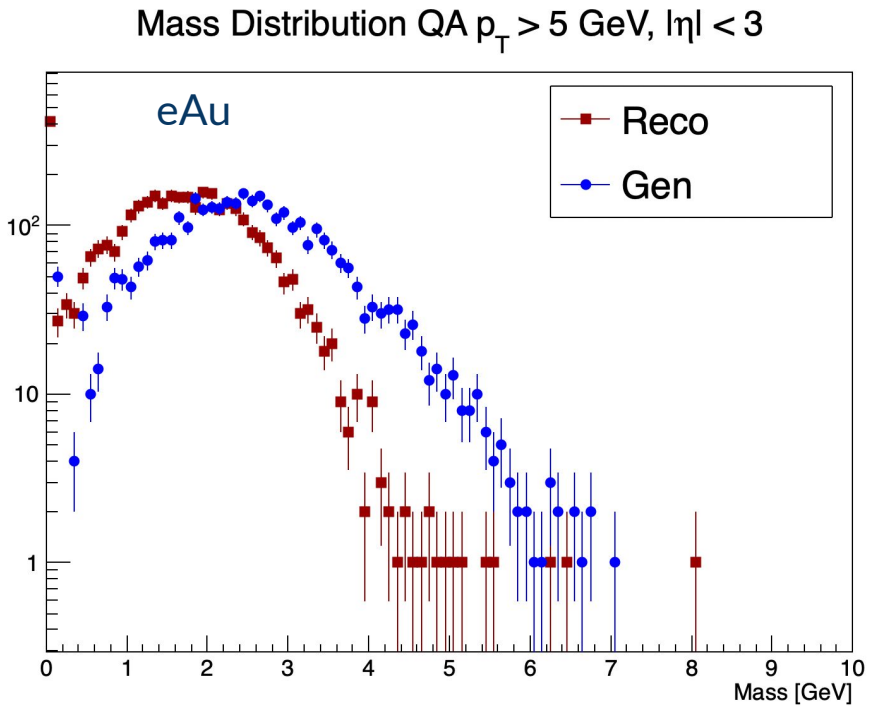






QA: Jet Mass





Shift driven by high-p_T fakes?

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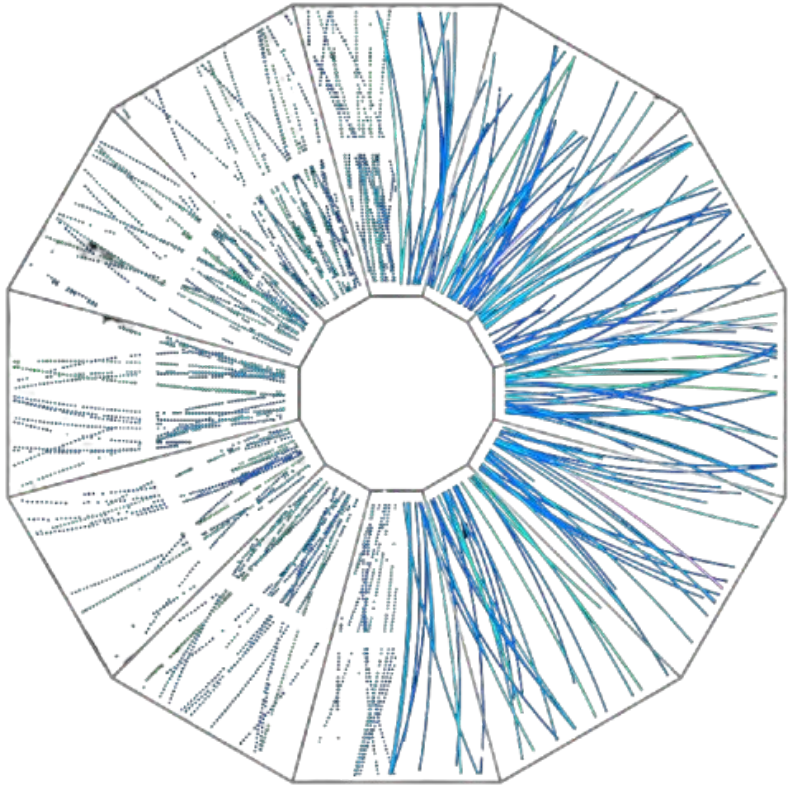
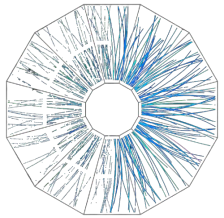
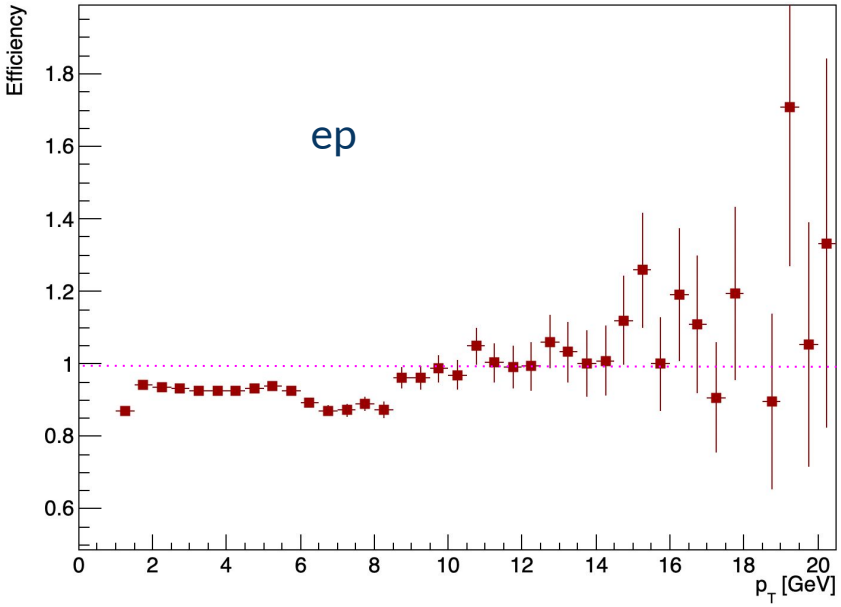
Efficiency and Fake Rate

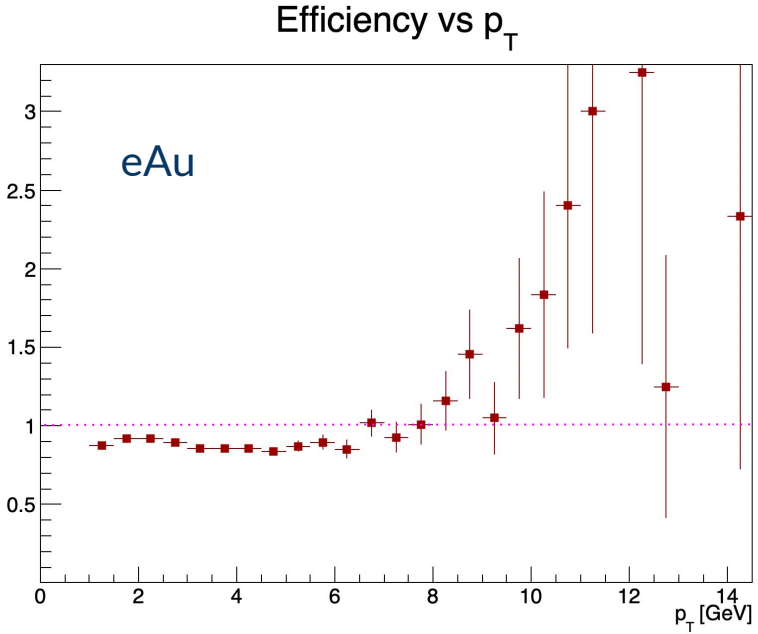




$$\epsilon = \frac{N_{\text{matched}}}{N_{\text{generated}}}$$

Efficiency as function of p_T





Geometrical matching: ΔR < 0.4

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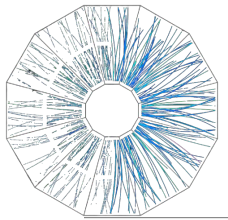
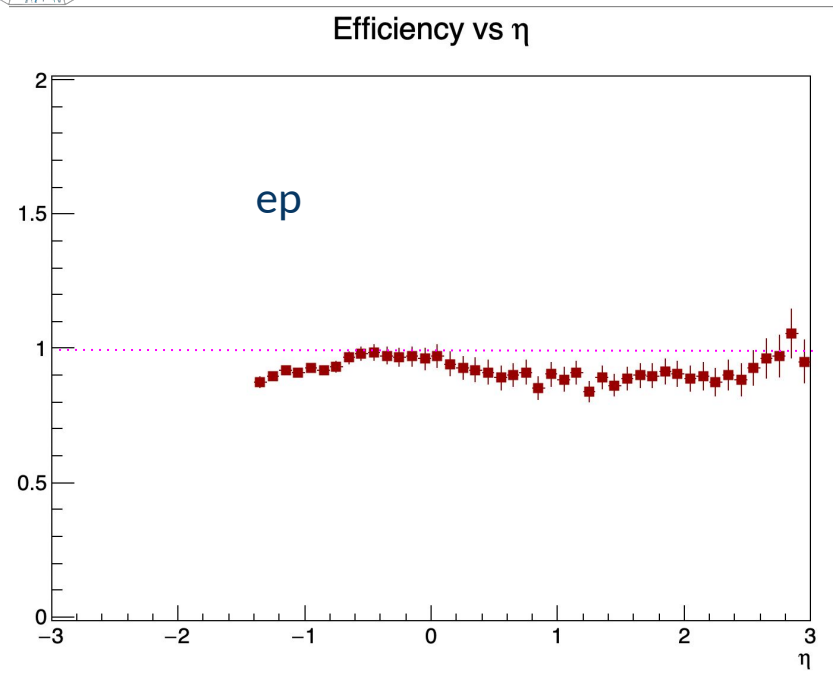
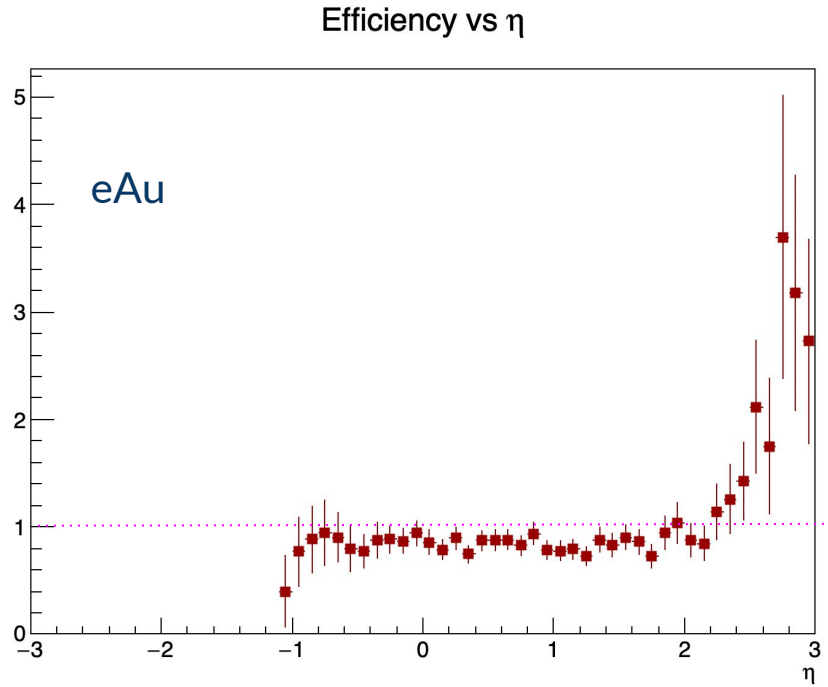


$$\epsilon = \frac{N_{\text{matched}}}{N_{\text{generated}}}$$

Efficiency as function of pseudorapidity





Geometrical matching: ΔR < 0.4

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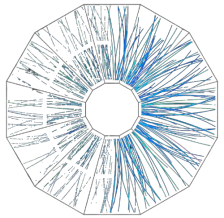
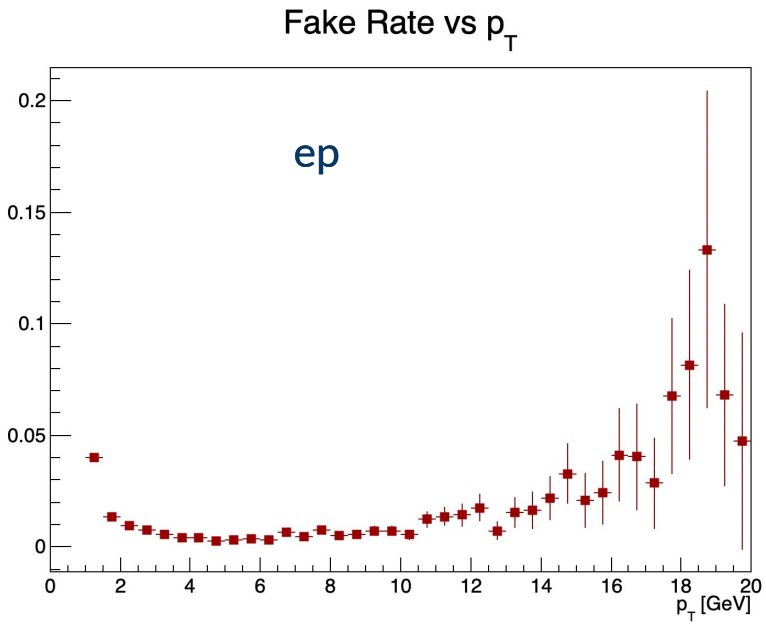
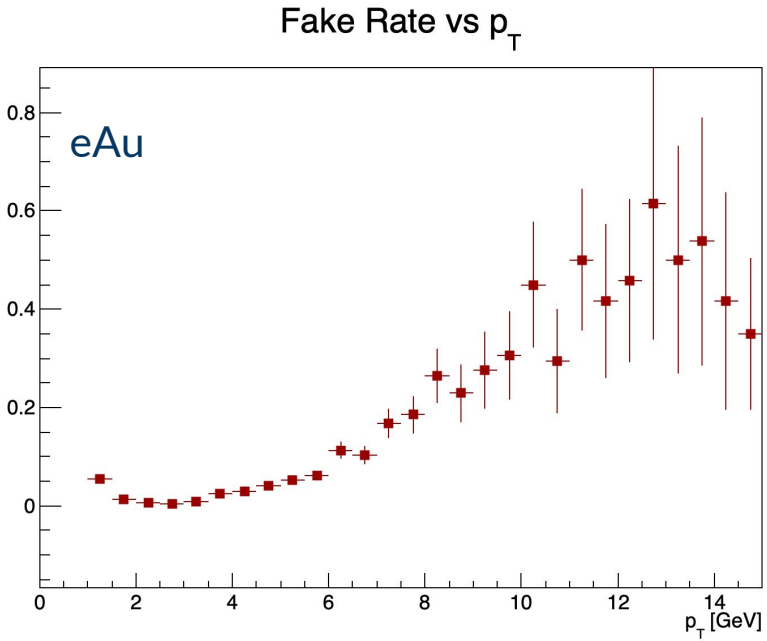


$$f = \frac{N_{\text{unmatched}}}{N_{\text{reconstructed}}}$$

Fake rate as function of p_T





Geometrical matching: ΔR < 0.8

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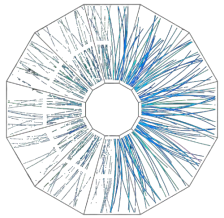
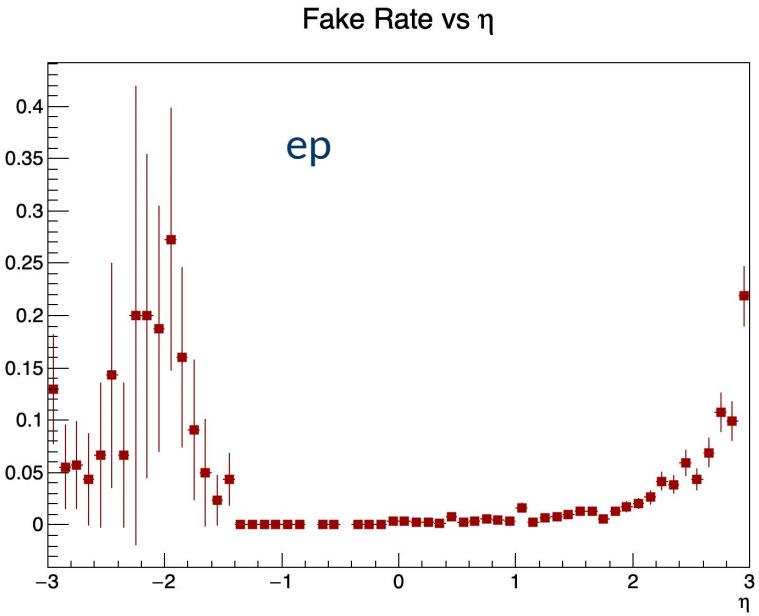
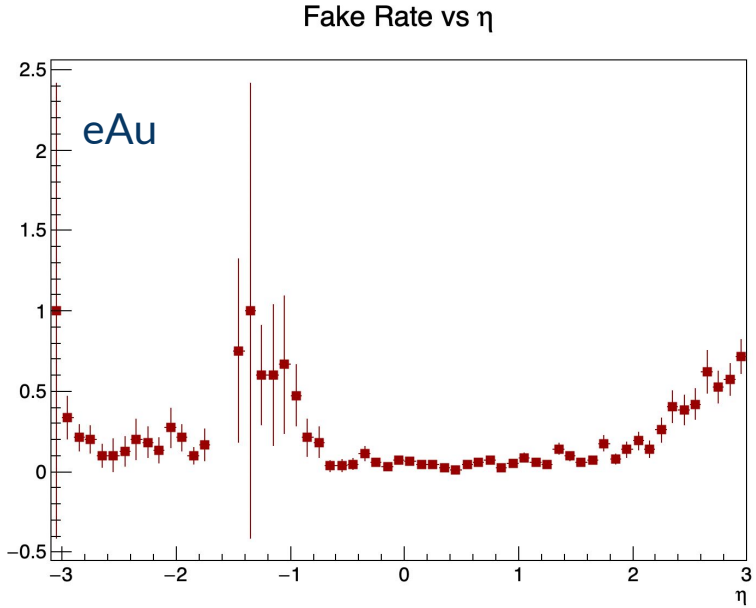


$$f = \frac{N_{\text{unmatched}}}{N_{\text{reconstructed}}}$$

Fake rate as function of pseudorapidity





Geometrical matching: ΔR < 0.8

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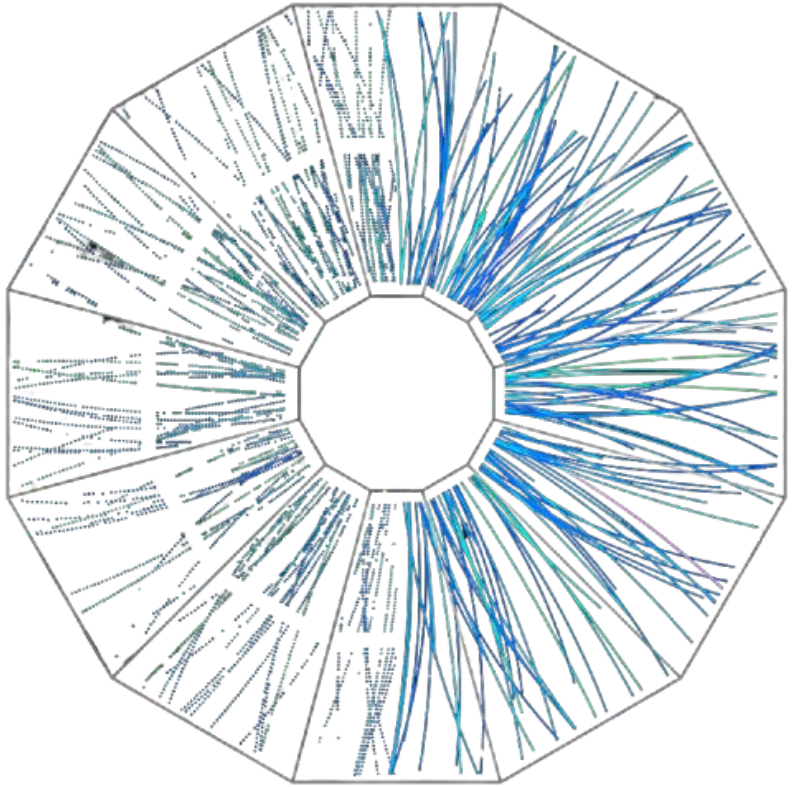
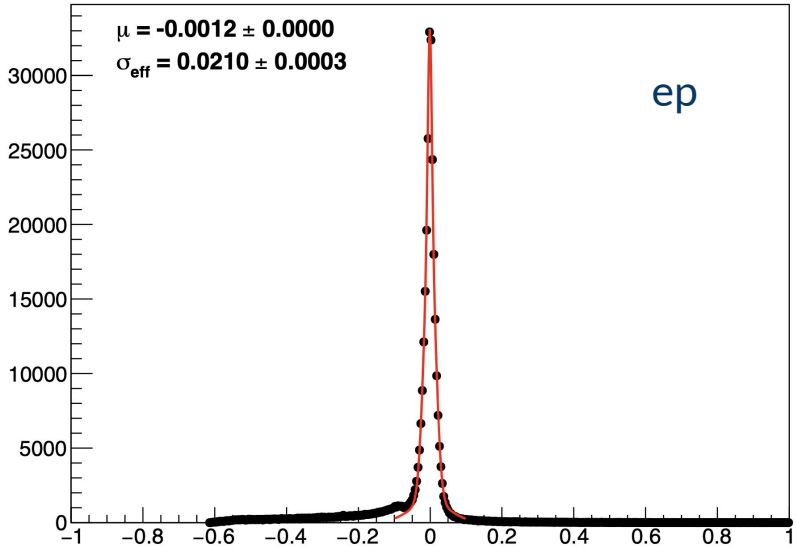
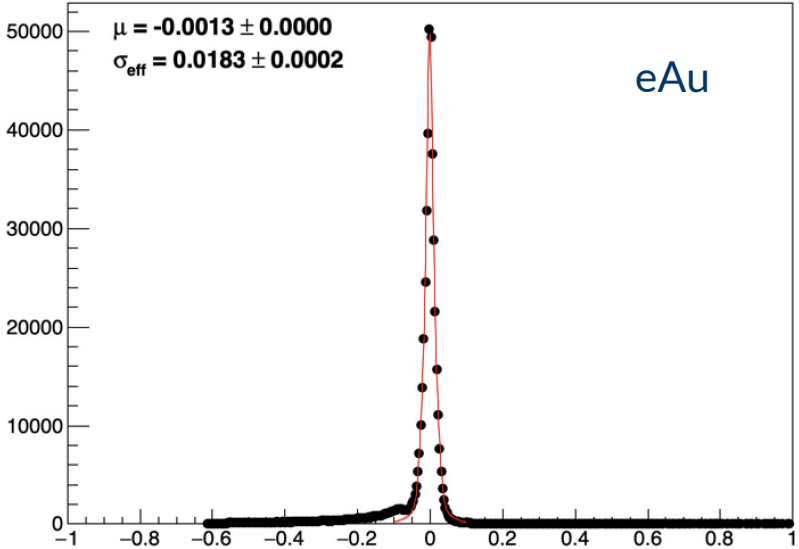
JER/JES



JER/JES

$2.2 < p_T < 2.5$ GeV





(reco - gen)/gen

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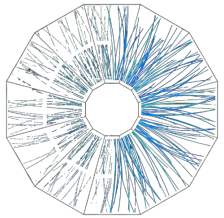
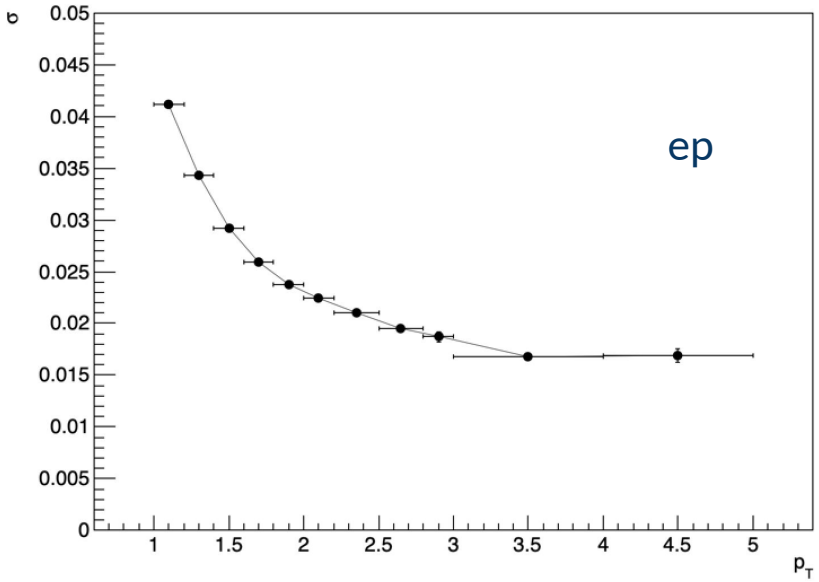
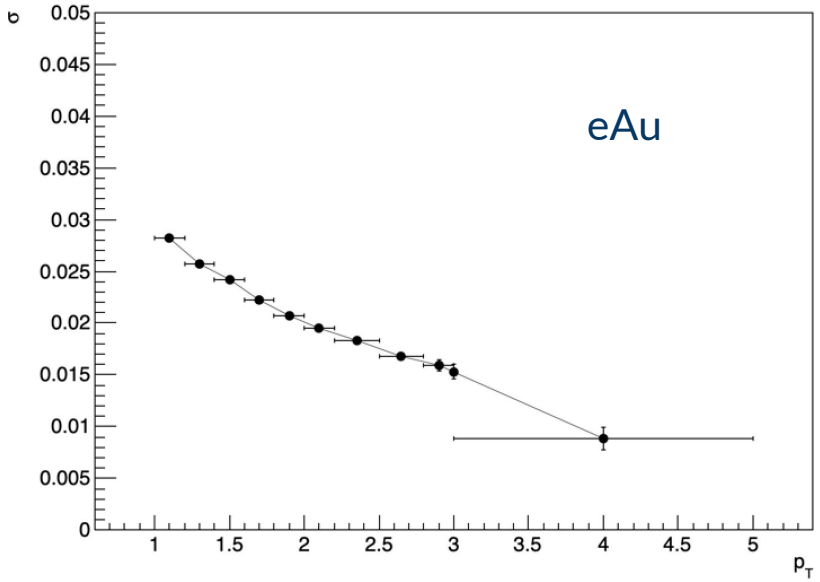


JER





width

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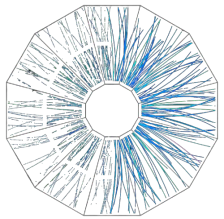
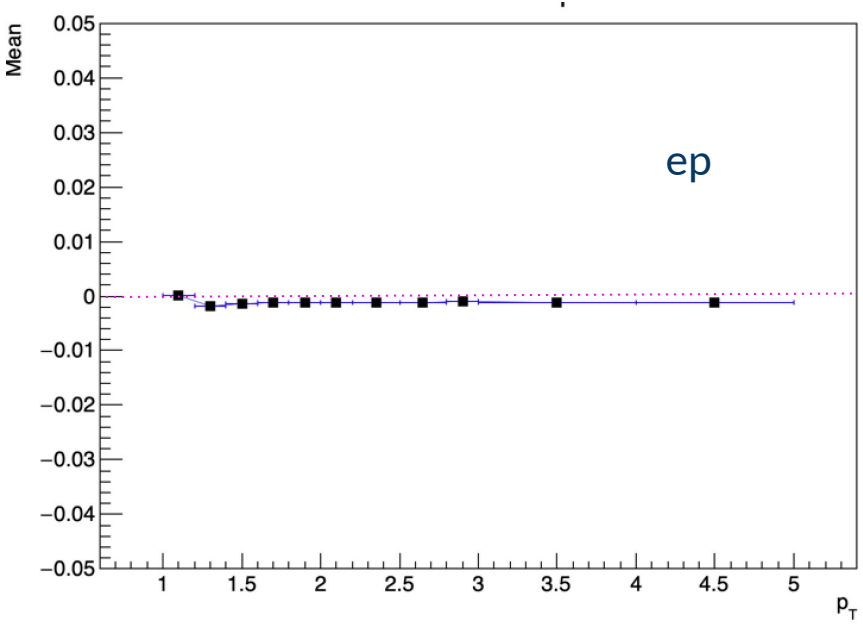
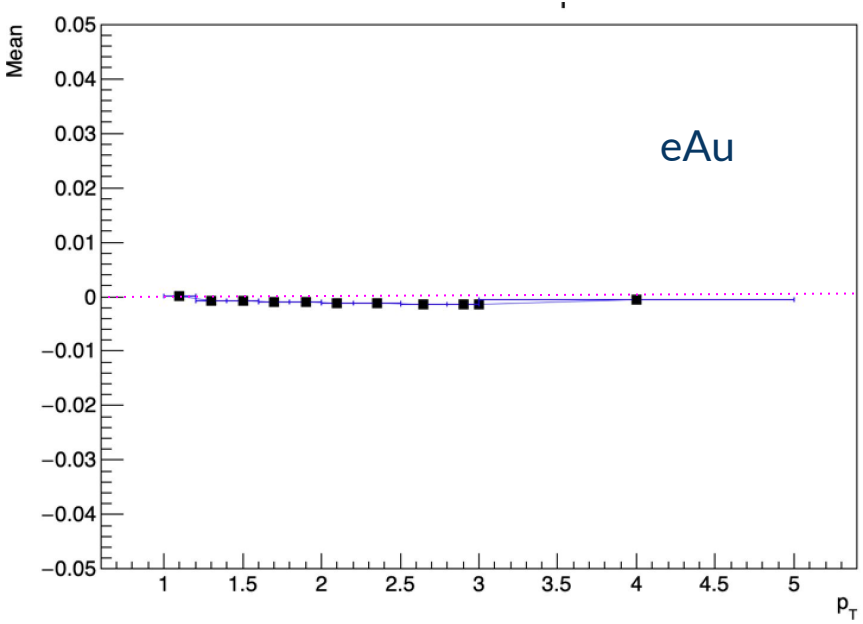


JES





width

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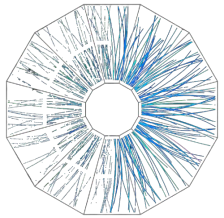
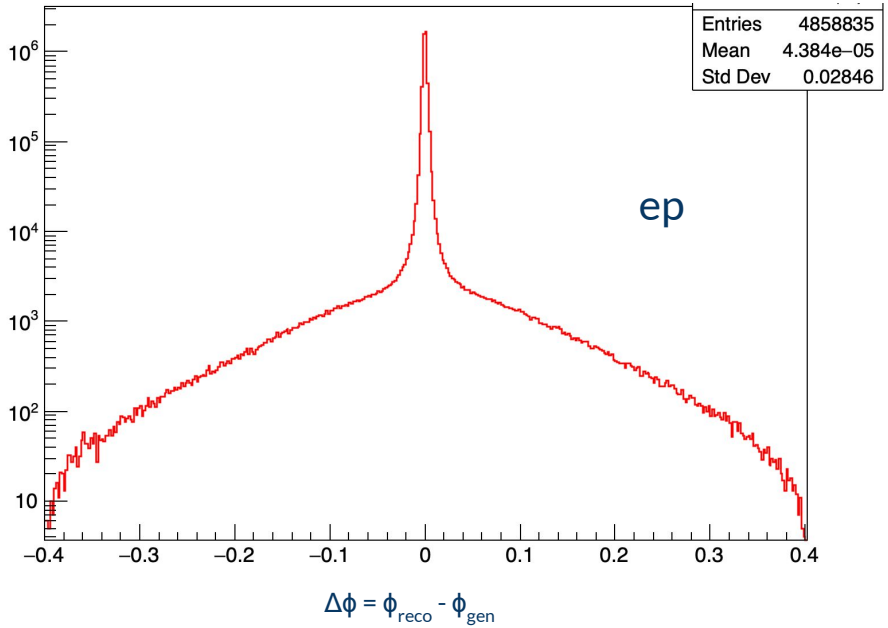
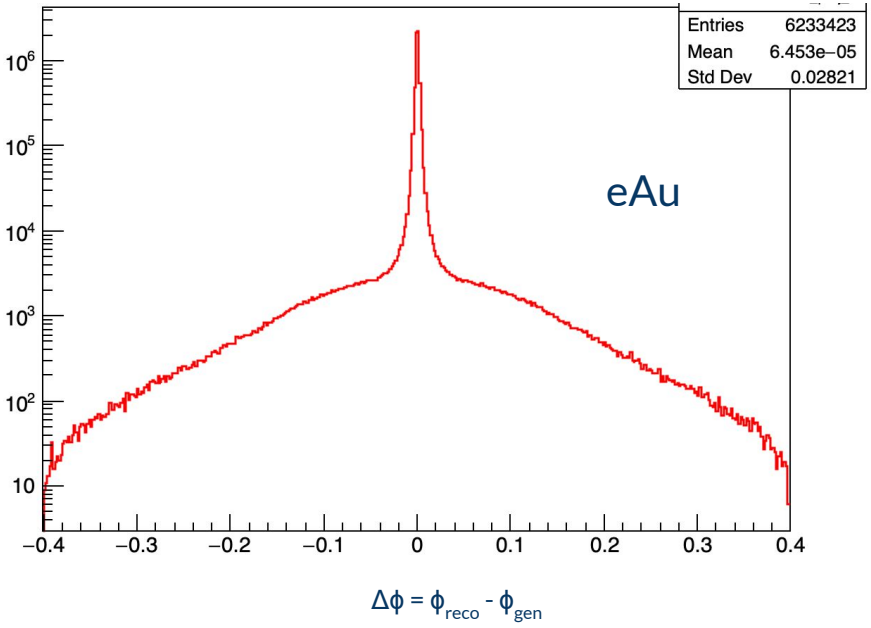


Angular resolution: Δϕ



$\Delta\phi = \phi_{reco} - \phi_{gen}$



$\Delta\phi = \phi_{reco} - \phi_{gen}$

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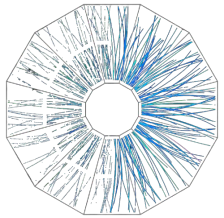
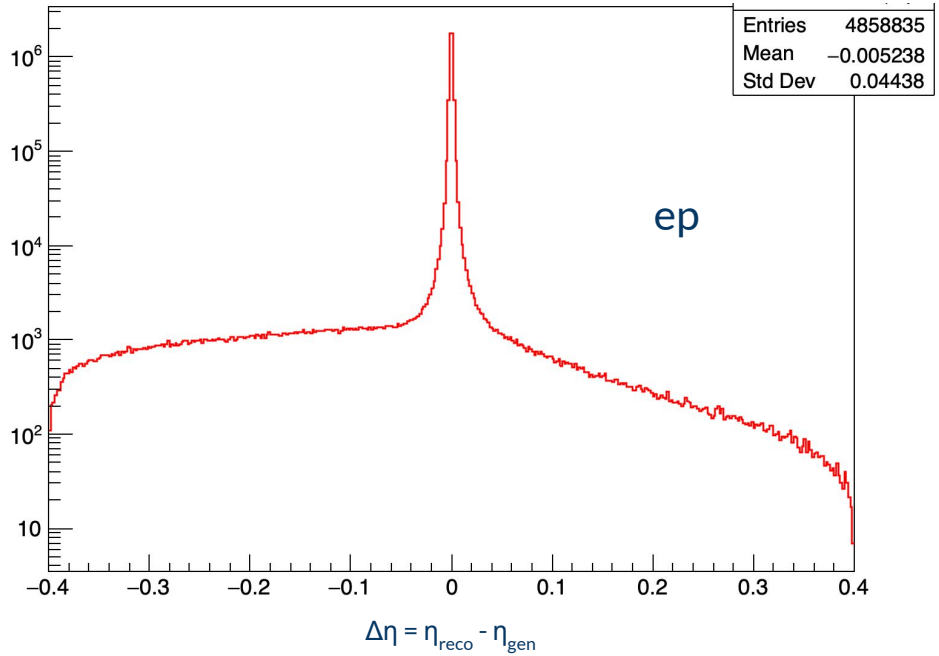
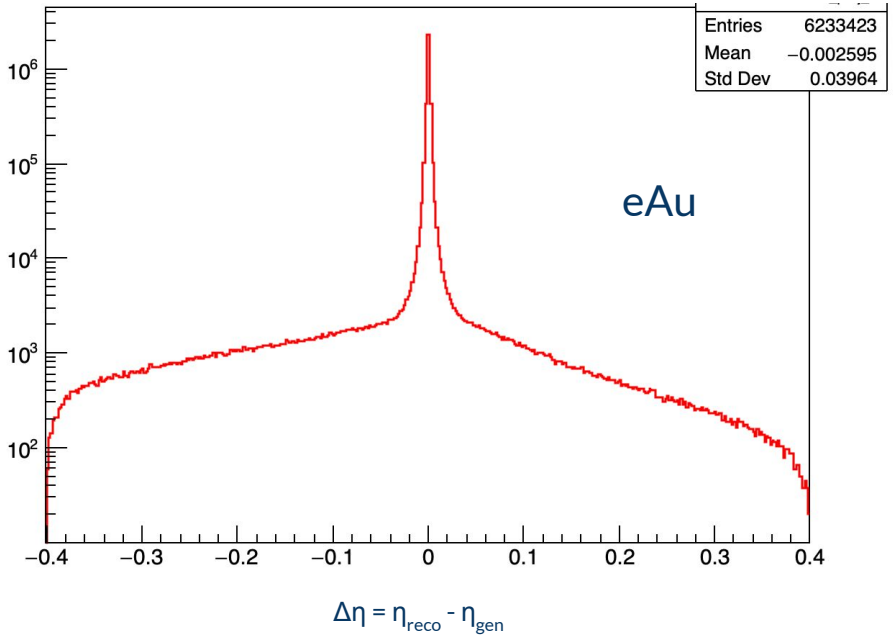


Angular resolution: Δη



$\Delta\eta = \eta_{reco} - \eta_{gen}$



$\Delta\eta = \eta_{reco} - \eta_{gen}$

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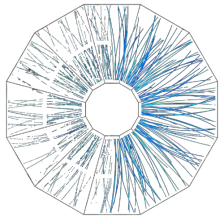

TODO's

- Double check geometrical matching
- Double check the electron removal
- Work with fits
- Produce plots using ePIC official style
- Work on physics results
  - R_{eAu} for different jet R
    - FastJet is already working
      - Comparison with official jet tree ongoing

شكراً جزيلاً
ngiyabonga
рахмат
danke
謝謝
teşekkür ederim
Баярлалаа
mersi
kia ora
barka
welalin
spas
tack
mahalo
tapadh leat
спасибо
faafetai lava
vinaka
спасибі
blagodaram
dank je
misaotra
matondo
paldies
grazzi
thank you
gracias
хвала
kiitos
dankie
nanni
nandri
dhanyavad
mauruuru
köszönöm
asante
manana
obrigada
tenki
murakoze
bedankt
bayarlalaa
gràcie
hvala
akun
dankon
aciü
djiere dieuf
tau
mochchakkeram
enkosi
dziękuję
дякую
mamnun
chokrane
chnorakaloutioun
gratias ago
gràcies
sulpáy
taiku
go raibh maith agat
sobodi
dėkuji
sukriya
kop khun krap
obrigado
sagolun
takk
arigatô
dakujem
trugarez
mèsi
didi madloba
ありがとう
tanemirt
grazie
najis tuke
terima kasih
rahmet
diolch
dhanyavadagalu
shukriya
merce
мерси
kam sah hamnida
rahmat
ευχαριστώ
merci
তোমাকে ধন্যবাদ
감사합니다
xièxie