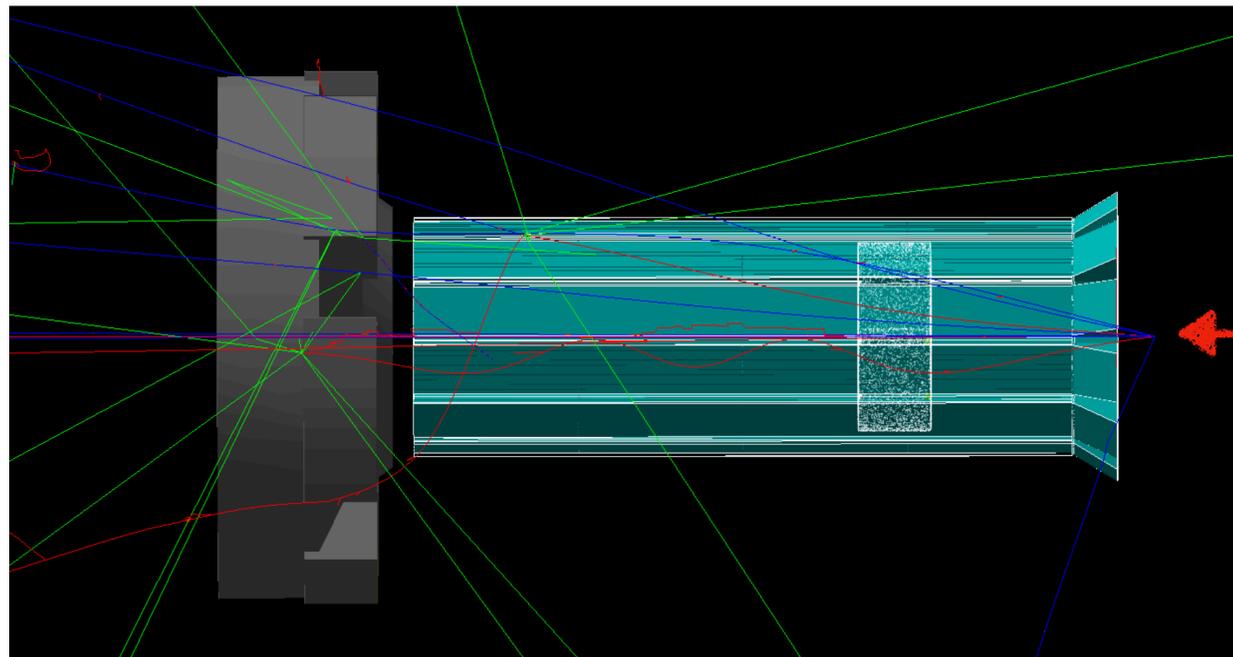# Fixed-target at ePIC

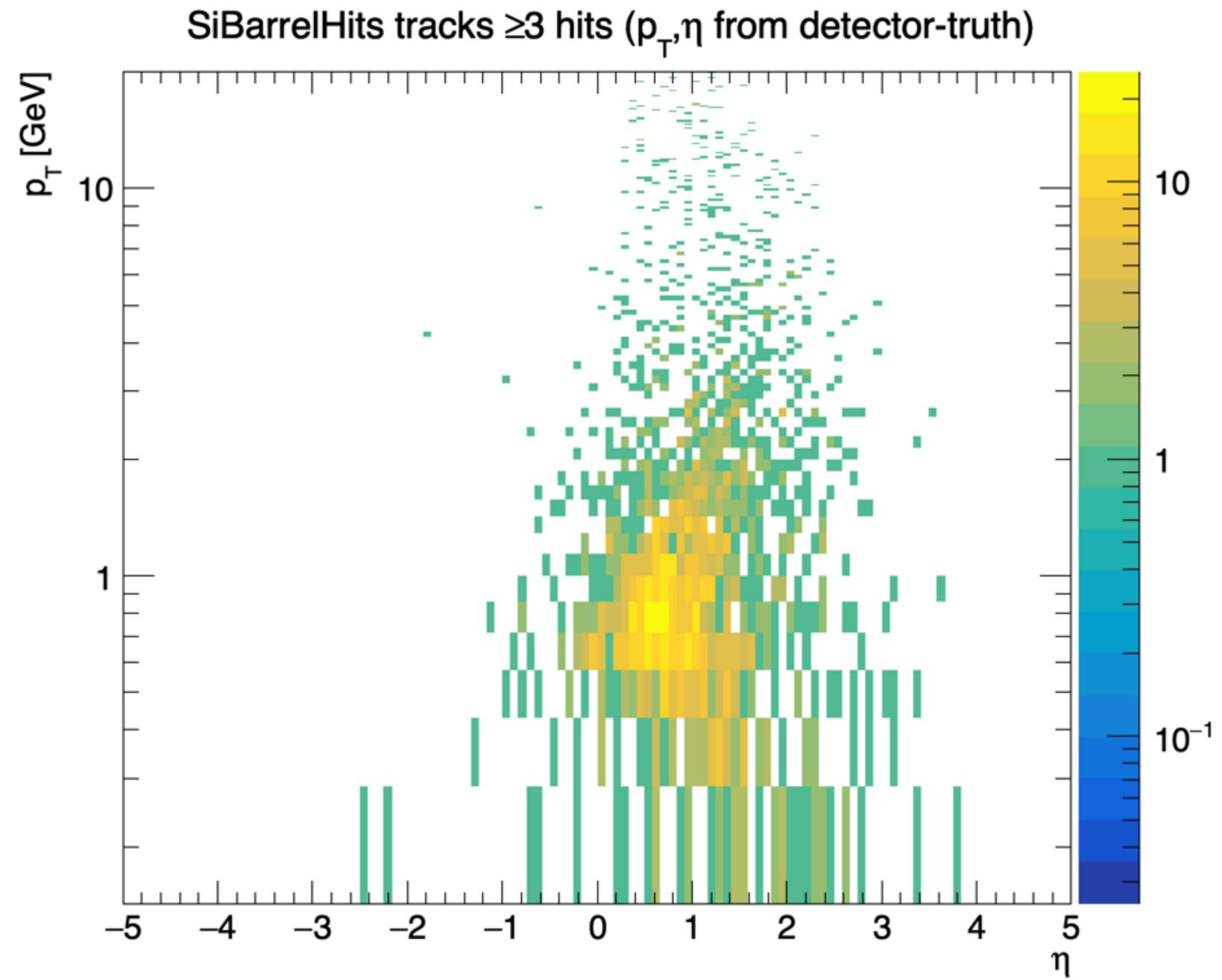- **Using an external generator HepMC file**

  ○ Proton-proton simulations

  ○ Beam energy 200 GeV (<u>possible</u>: proton 25 - 275 GeV - gold 10 - 110 GeV)
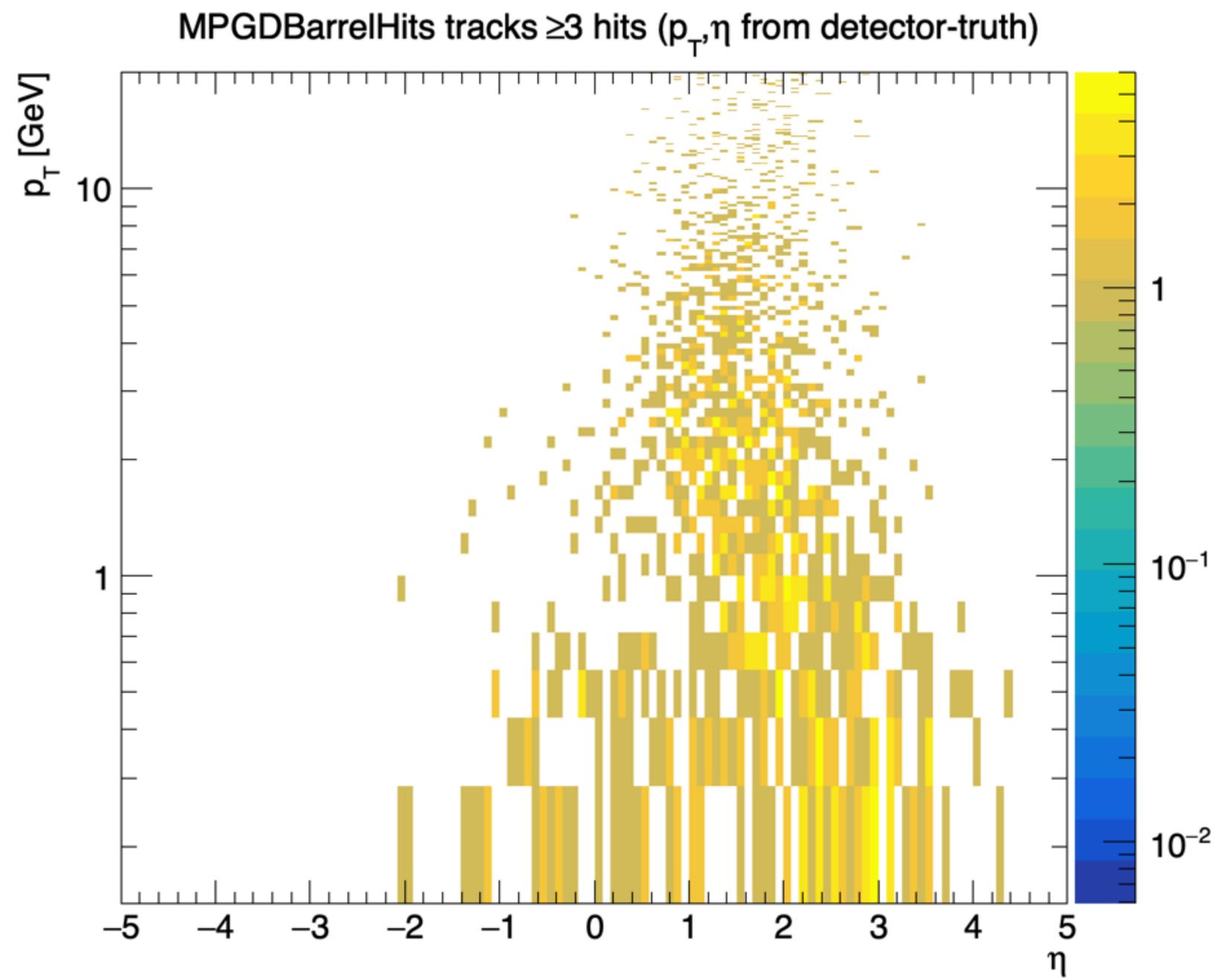
  ○ Jpsi process

Target at - 3290 mm

*Using only PID detectors because the full ePIC setup crashes the visualization (only for the interactive mode).
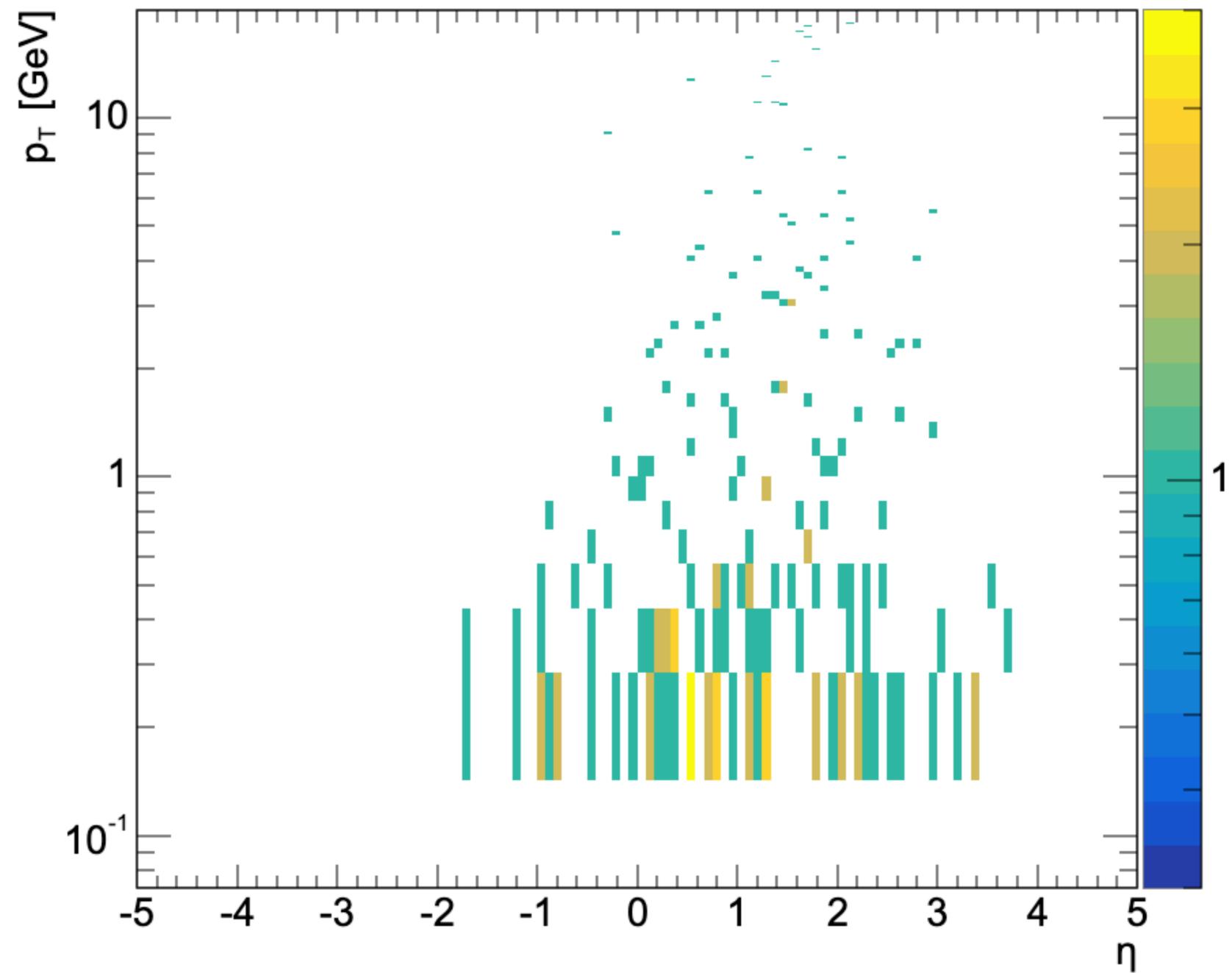
SiBarrelHits

SiBarrelHits tracks ≥3 hits (p_T,η from detector-truth)

MPGDBarrelHits

MPGDBarrelHits tracks ≥3 hits (p_T,η from detector-truth)
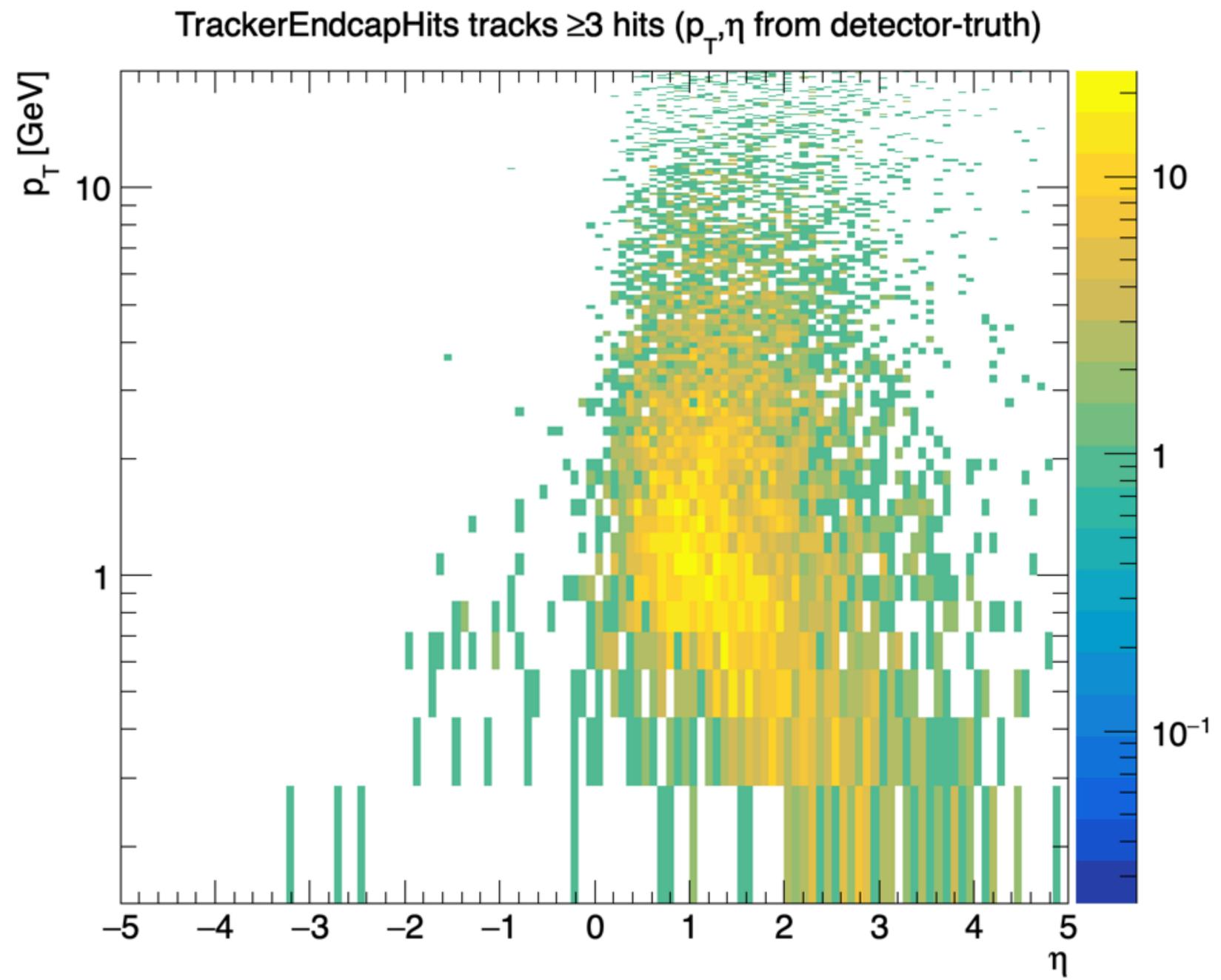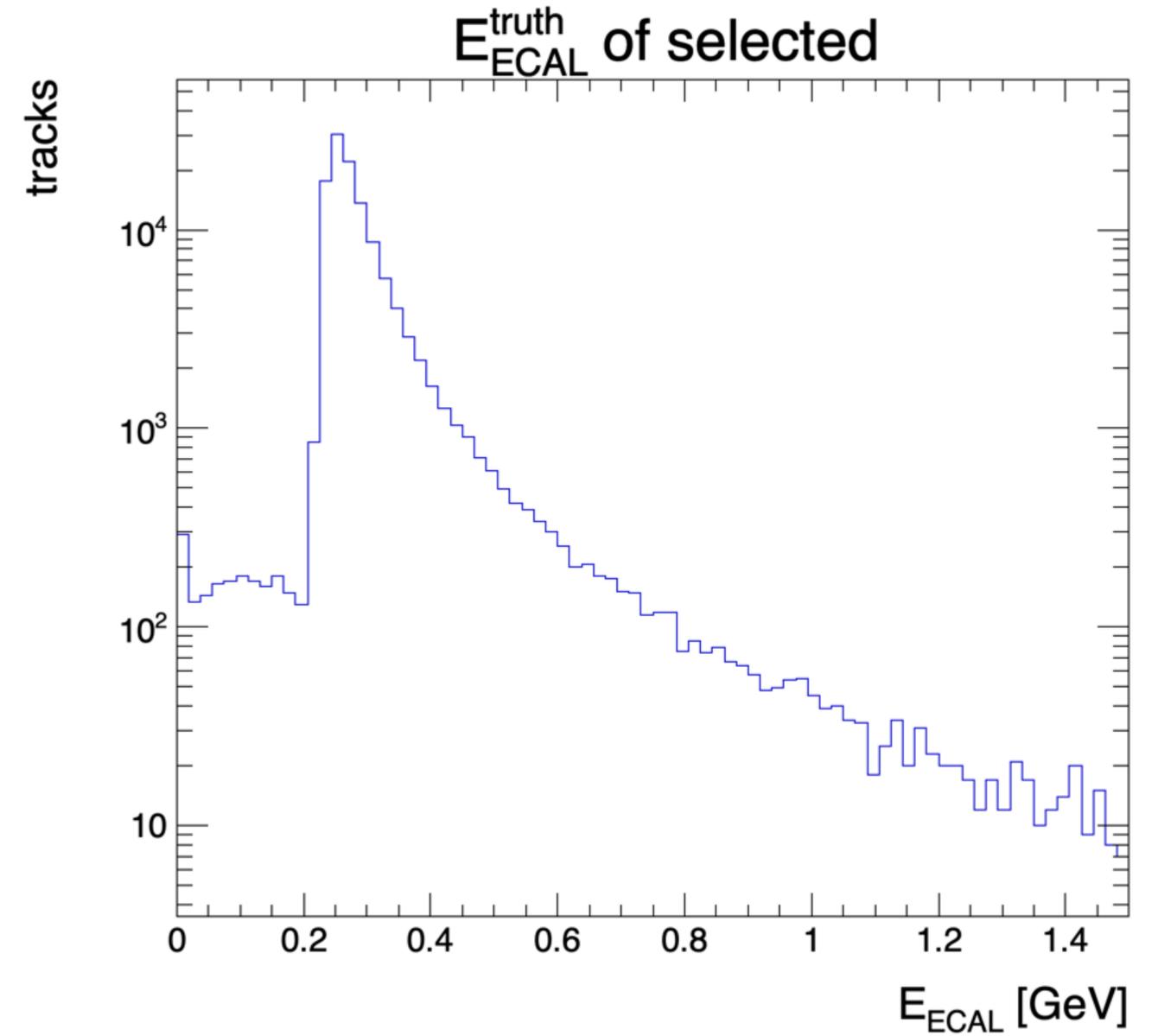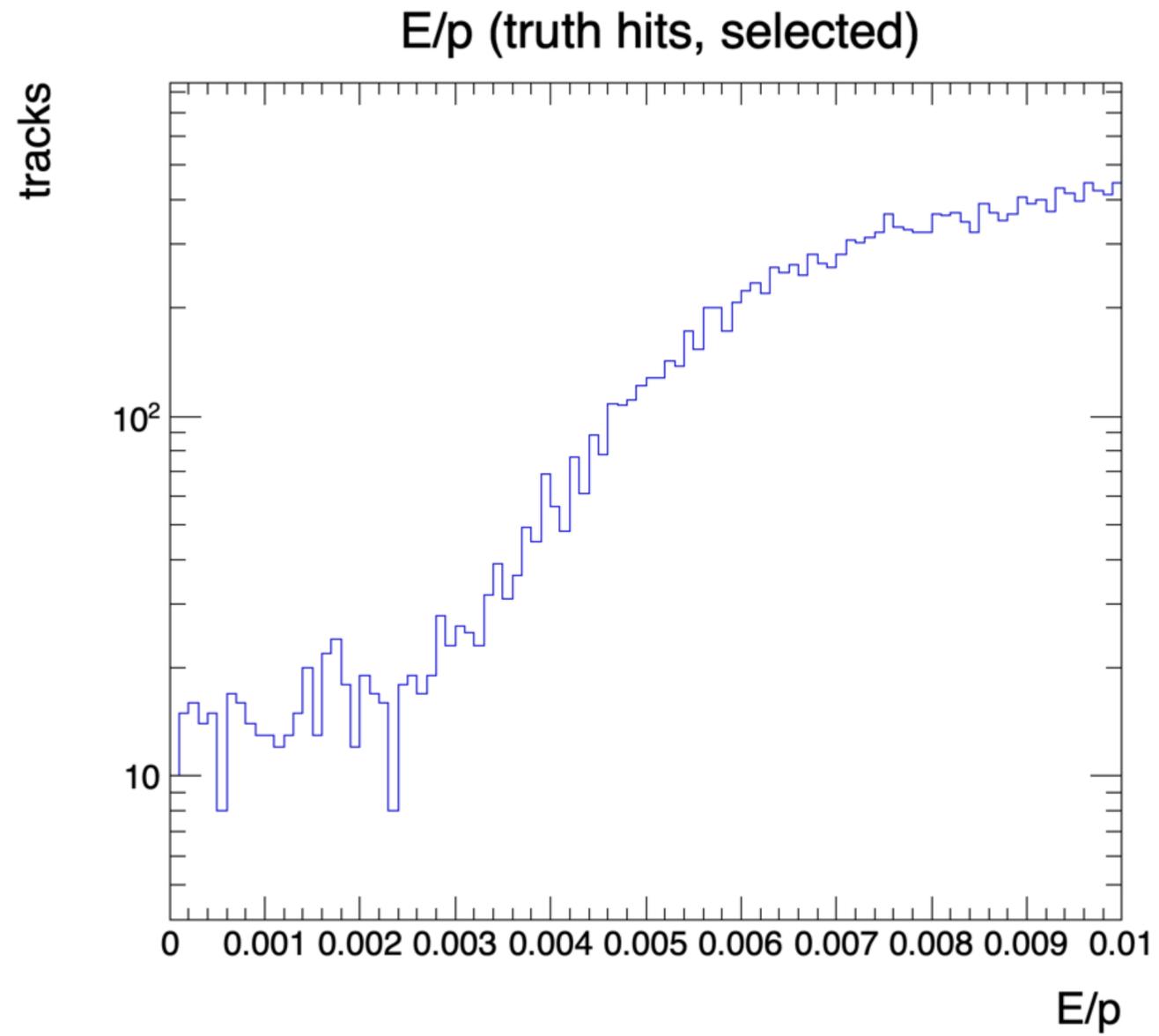
OuterMPGDBarrelHits

OuterMPGDBarrelHits tracks ≥3 hits (p_T,η from detector-truth)

TrackerEndcapHits

TrackerEndcapHits tracks ≥3 hits (p_T,η from detector-truth)

EcalEndcapPHits

E/p (truth hits, selected)

E_{ECAL}^{truth} of selected

EcalEndcapPHits

Dimuon invariant mass (selected $\mu^+\mu^-$)

E/p < 0.1

$\sigma = 0.21$ GeV

Selected (E/p<cut)

E/p < 0.1

EcalEndcapPHits

Dimuon invariant mass (selected $\mu^+\mu^-$)

E/p < 0.01

$\sigma = 0.10$ GeV

Dimuon invariant mass (selected $\mu^+\mu^-$)

E/p < 0.2

$\sigma = 0.24$ GeV
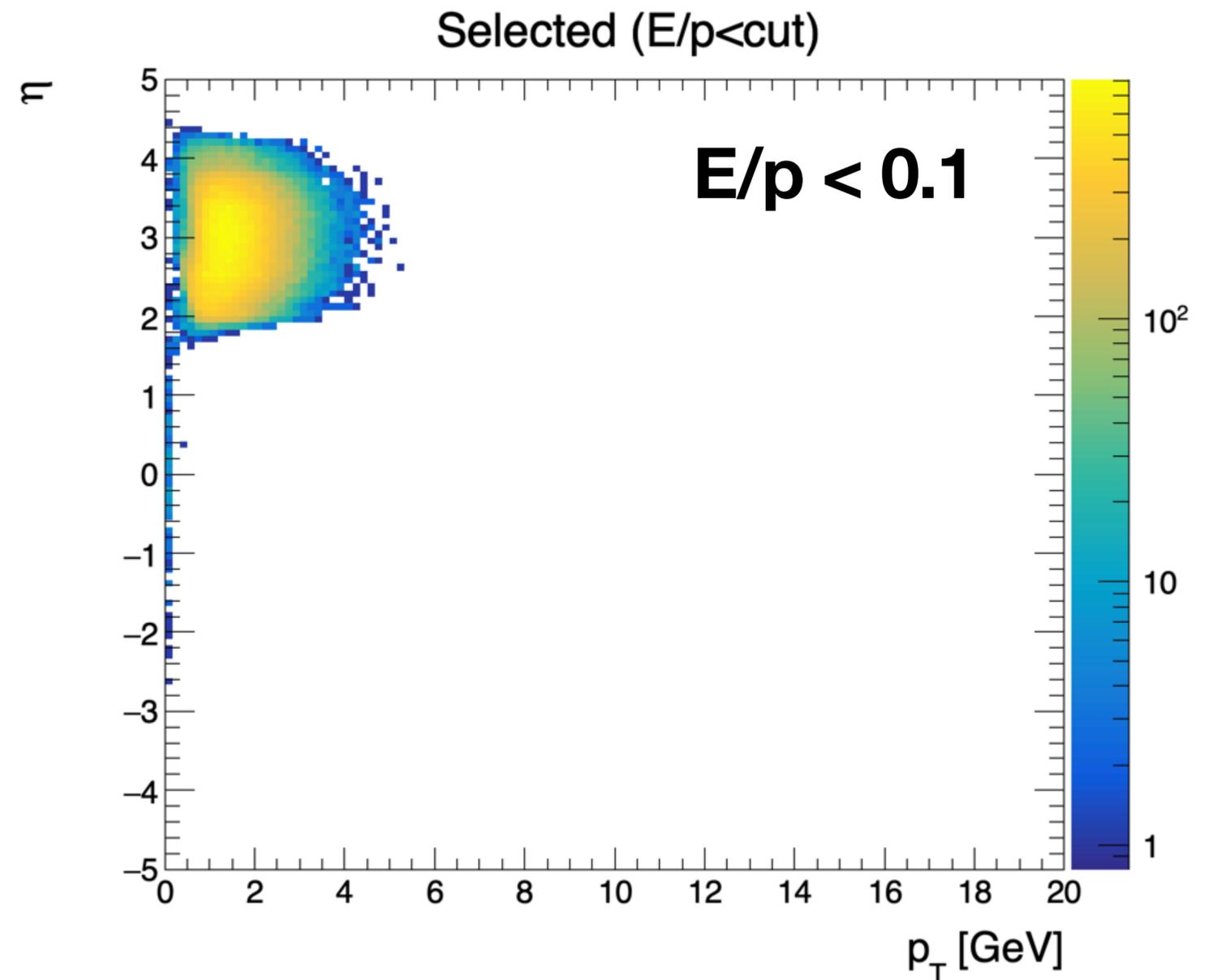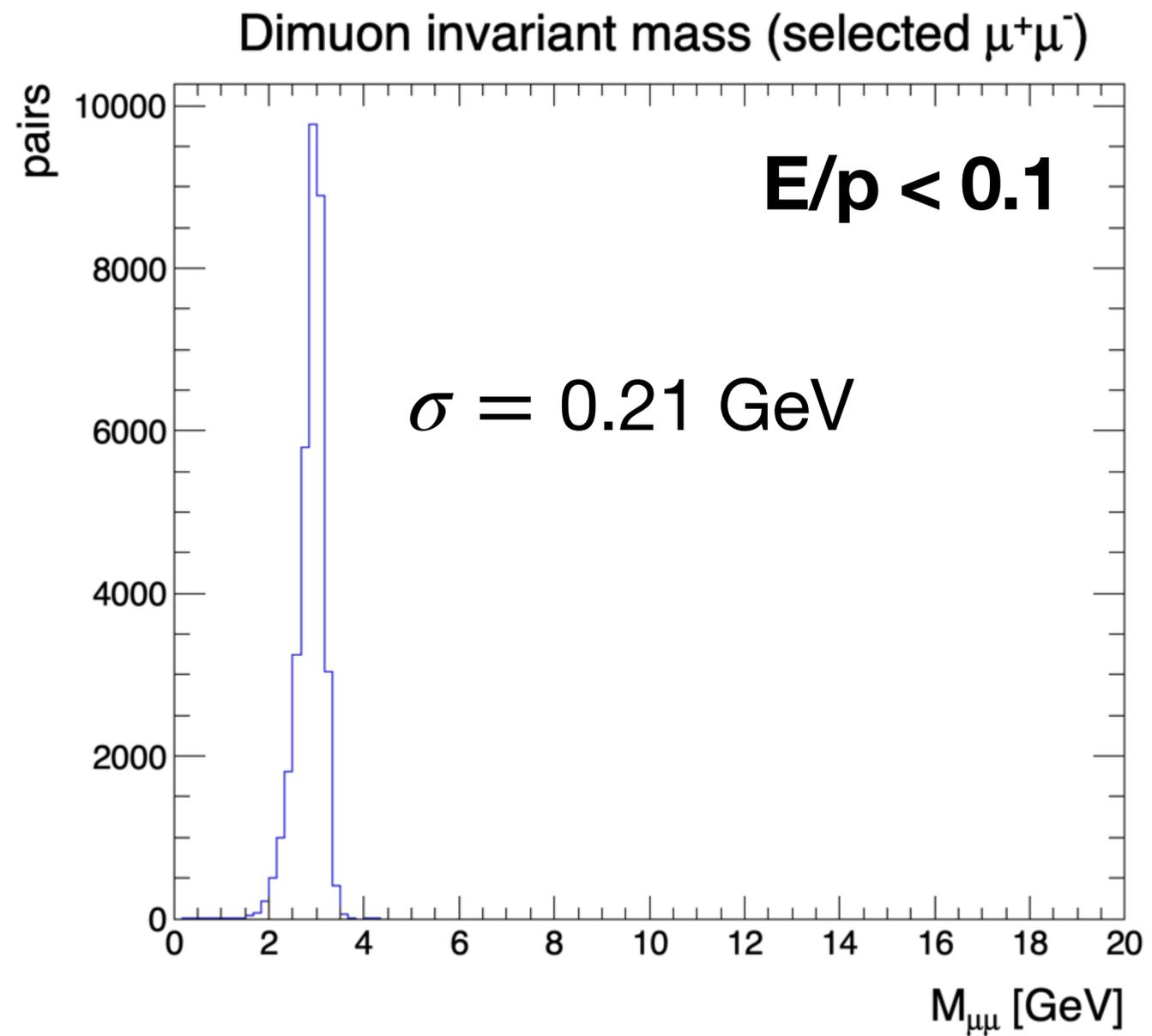
Fixed-target at ePIC

- **Using an external generator HepMC file**

  - Proton-proton simulations

  - Beam energy 200 GeV (possible: proton 25 - 275 GeV - gold 10 - 110 GeV)

  - **All Hard QCD processes**

Target at - 3290 mm

*Using only PID detectors because the full ePIC setup crashes the visualization (only for the interactive mode).
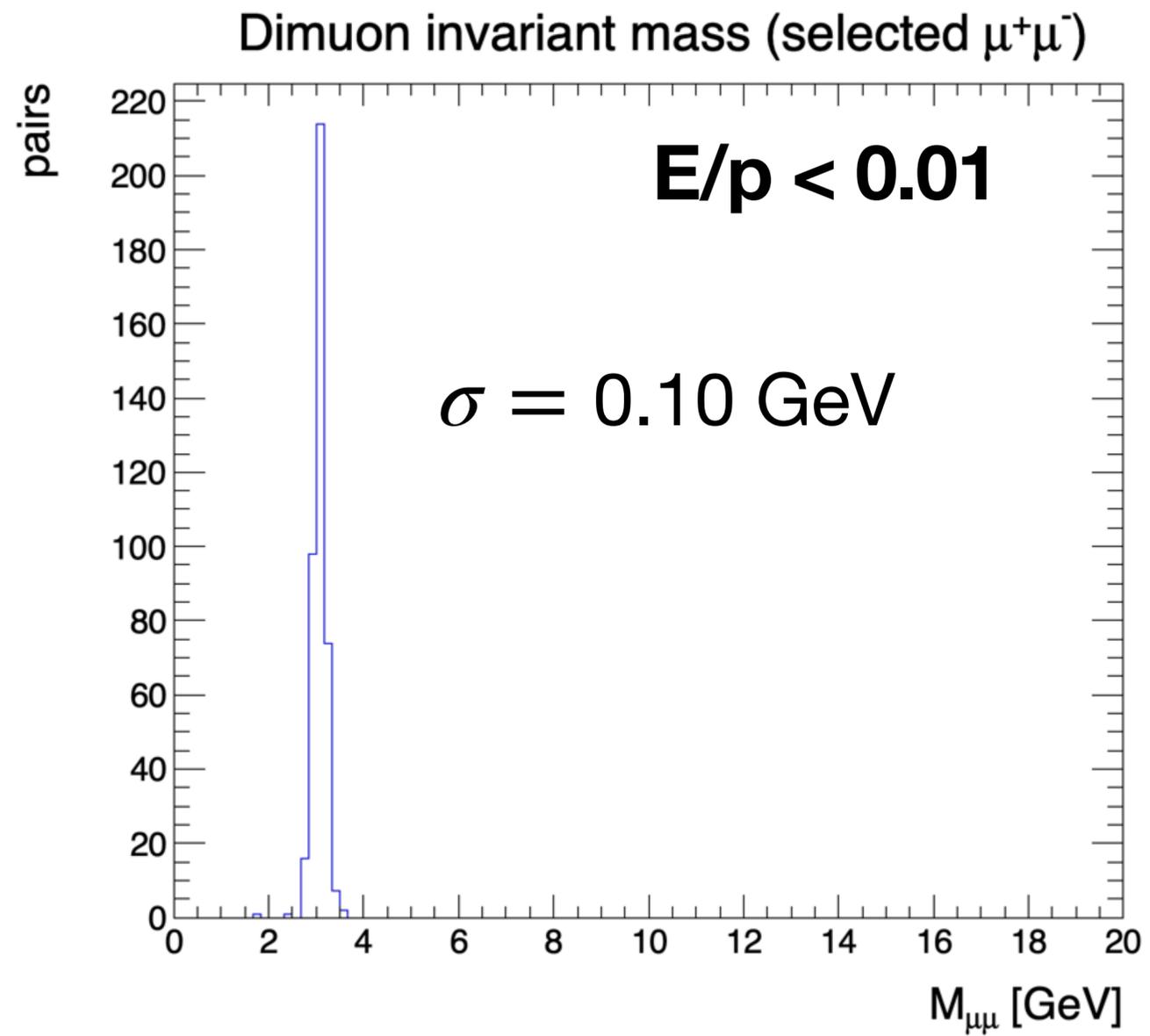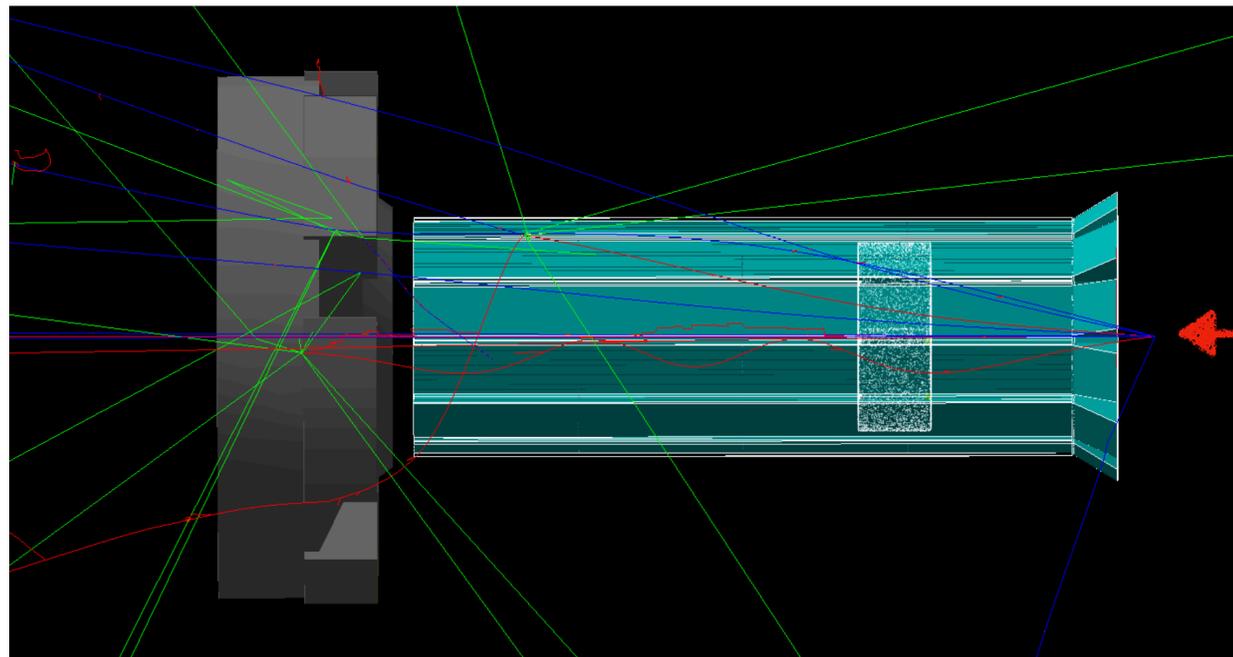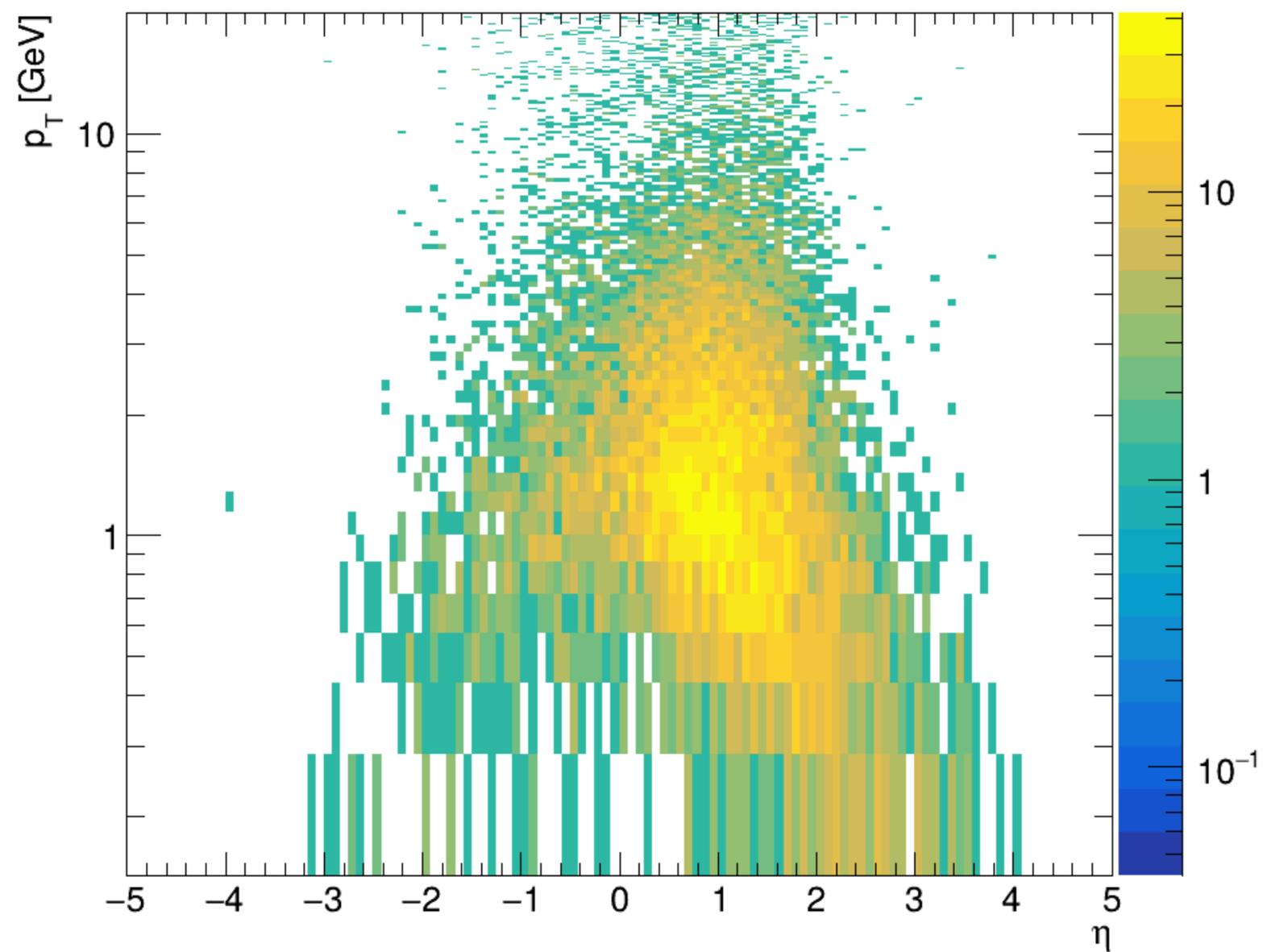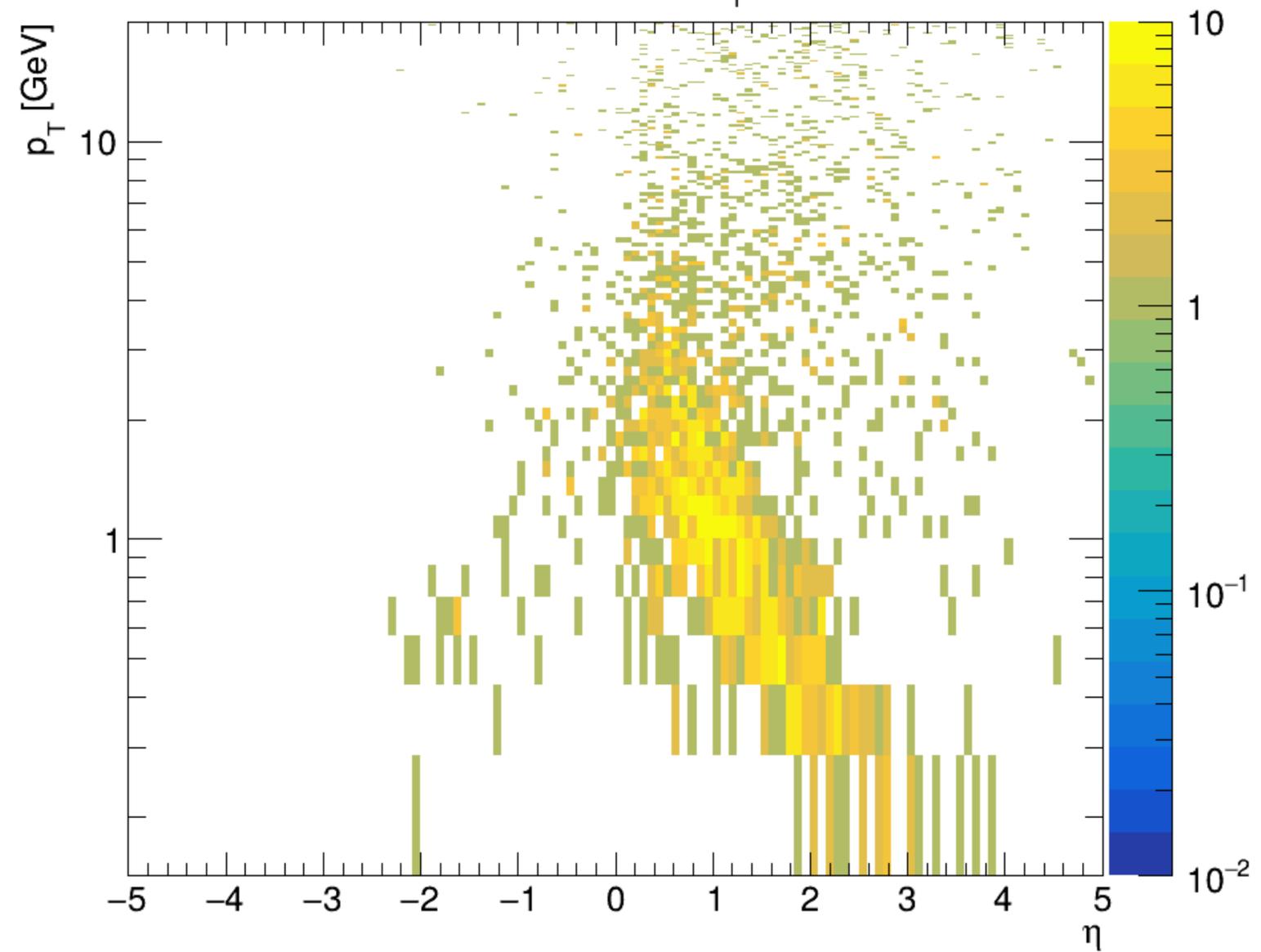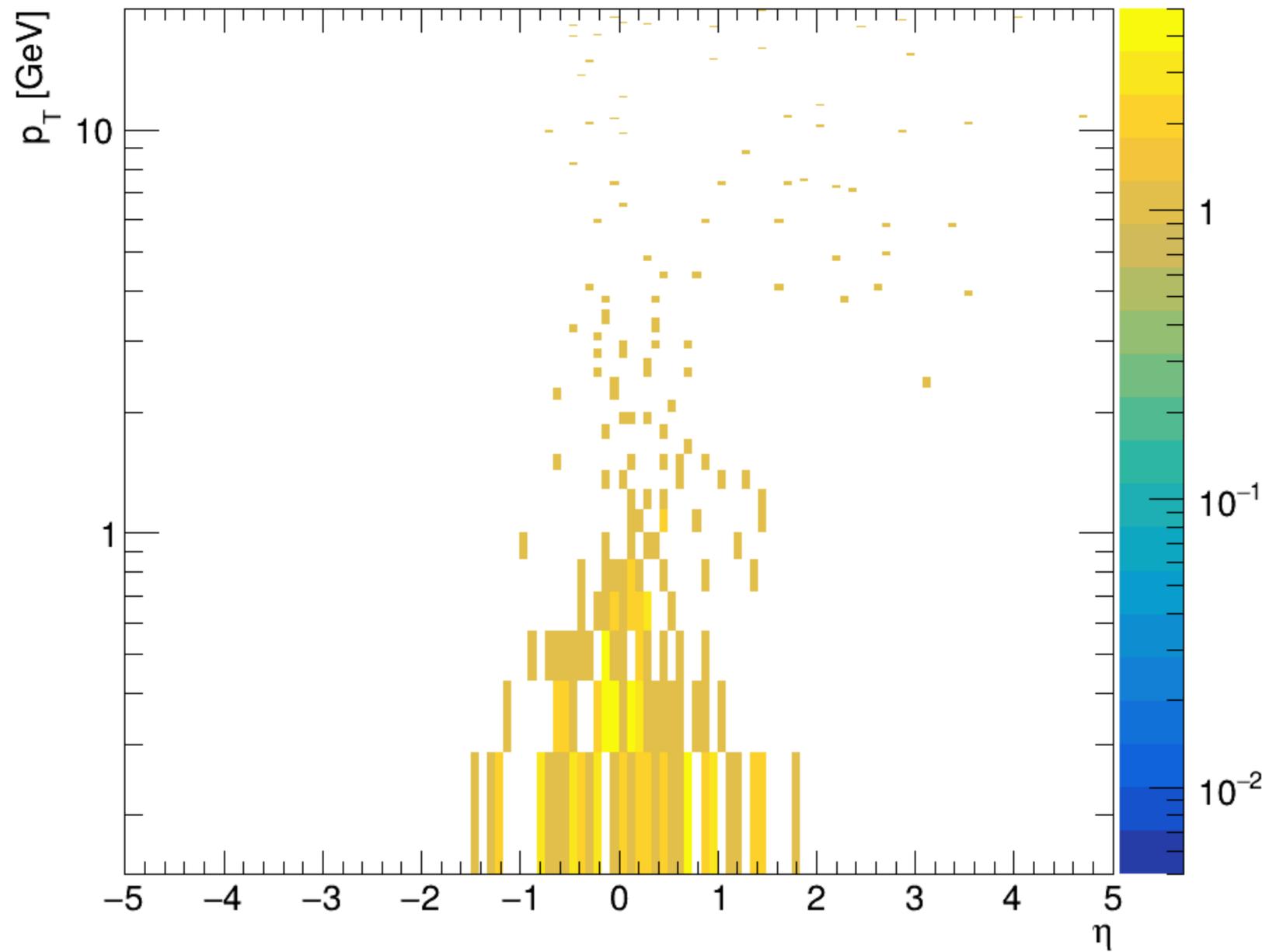
TOFBarrelHits tracks ≥4 hits (p_T,η from detector-truth)

TrackerEndcapHits tracks ≥4 hits (p_T,η from detector-truth)

ForwardMPGDEndcapHits tracks ≥4 hits (p_T,η from detector-truth)

MPGDBarrelHits tracks ≥4 hits (p_T,η from detector-truth)