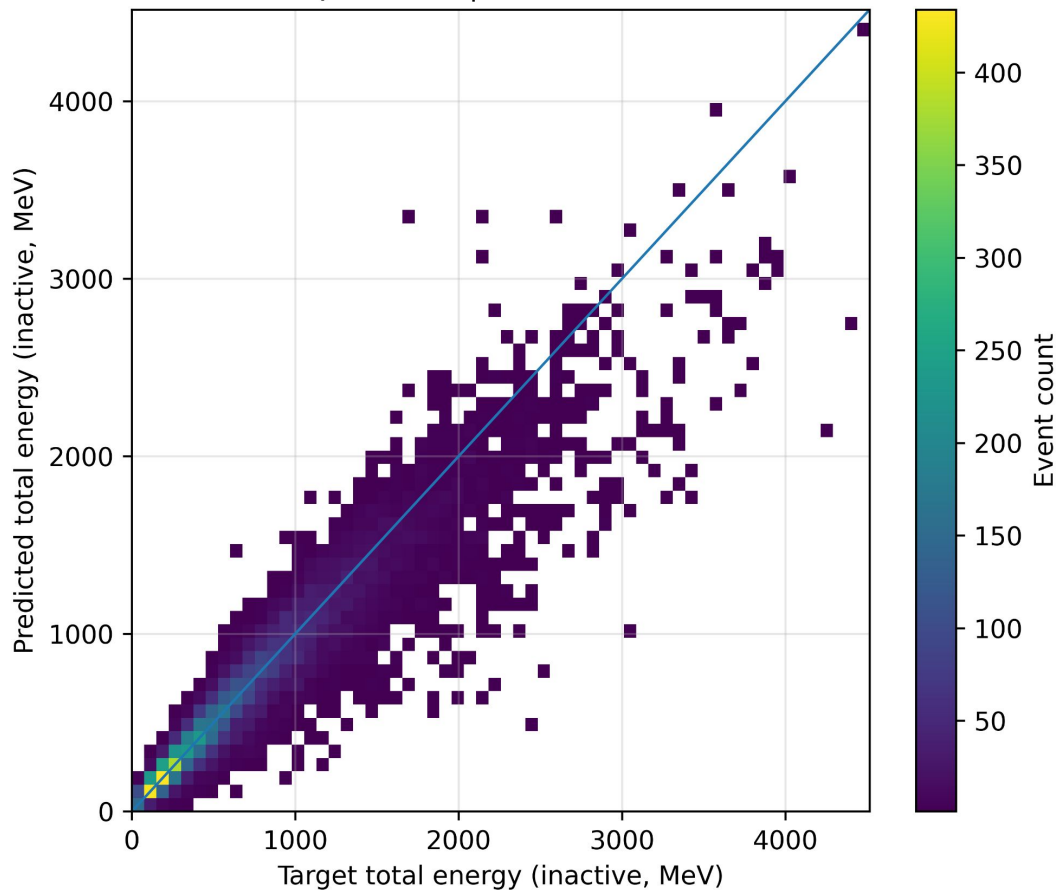


Inactive-region total energy: LArDRIP PREDICTION vs TARGET  
epoch=44 | detector=2x2

2x2-like  
7 cm inactive  
width

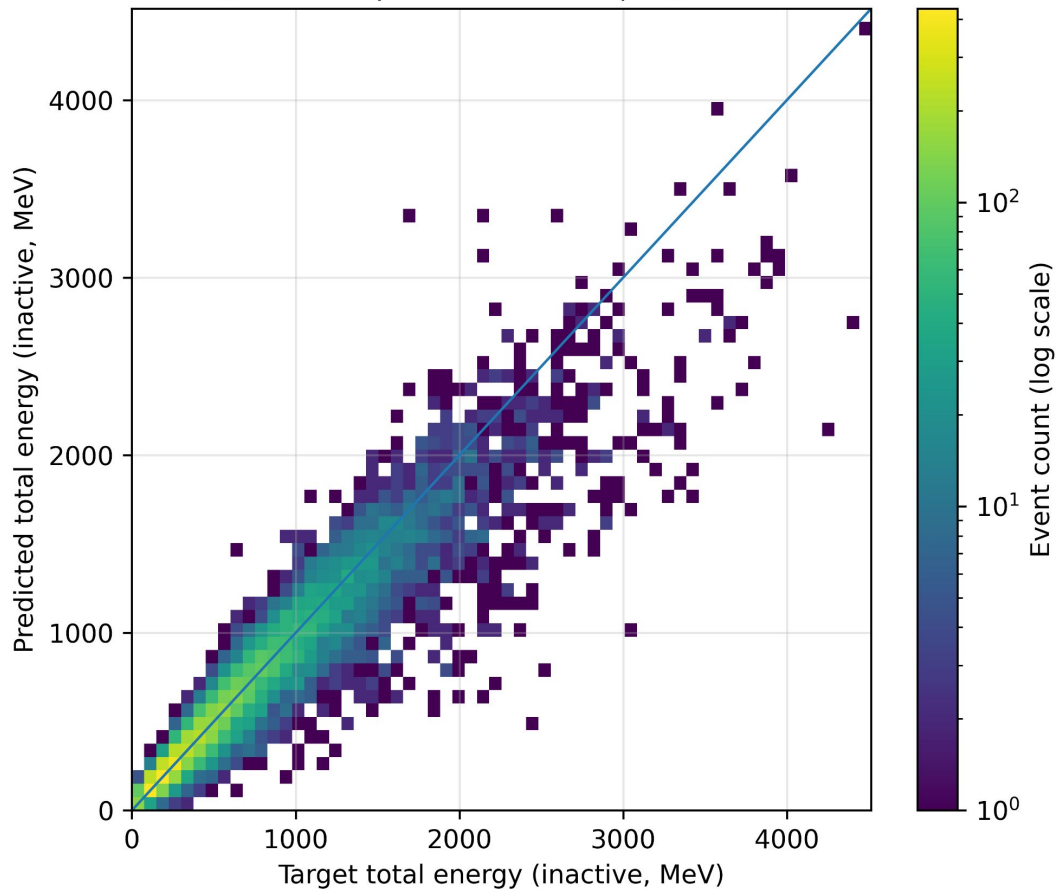
Current



Inactive-region total energy: LArDRIP PREDICTION vs TARGET  
epoch=44 | detector=2x2 | log counts

2x2-like  
7 cm inactive  
width

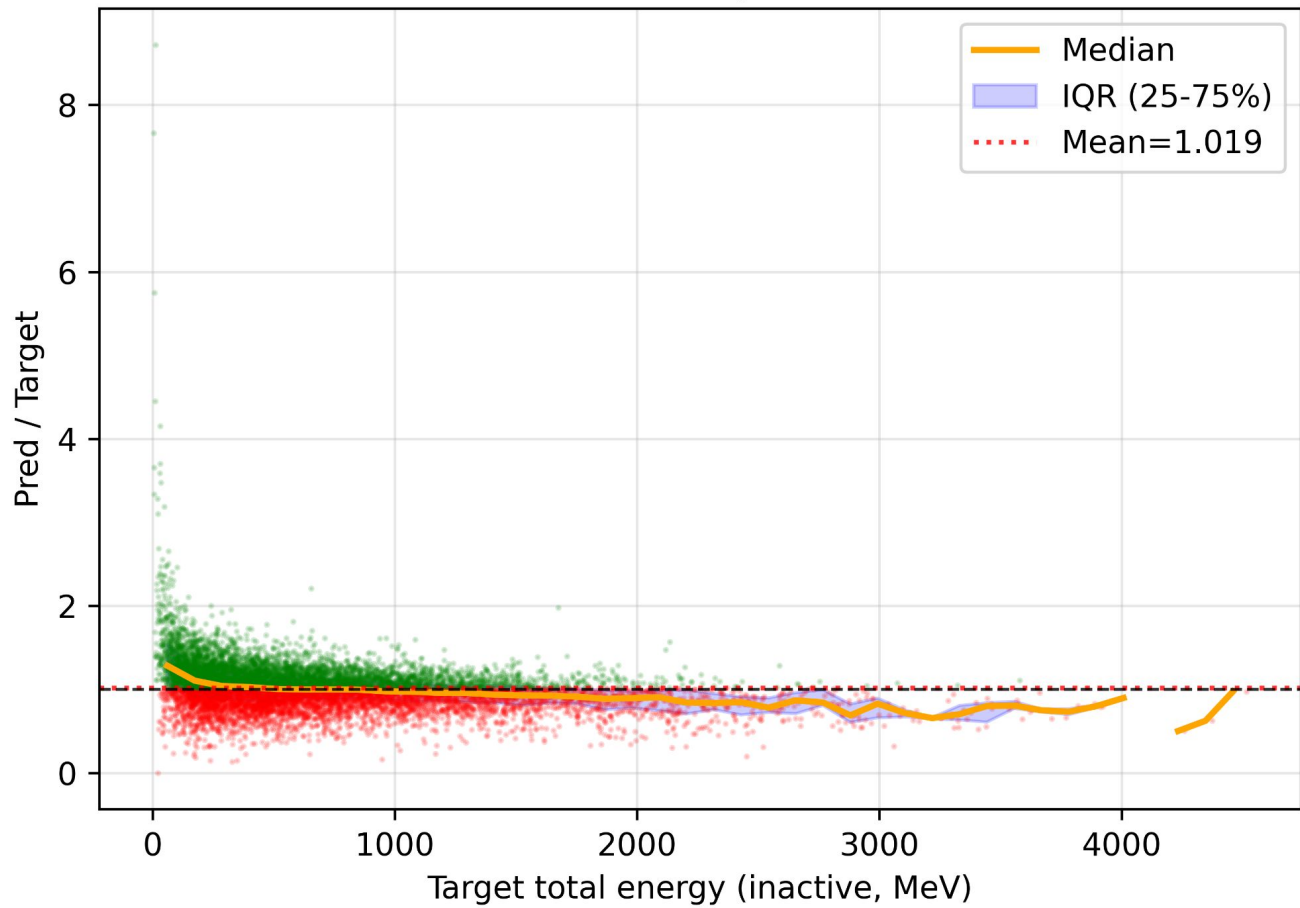
Current



Ratio vs Target | epoch=44

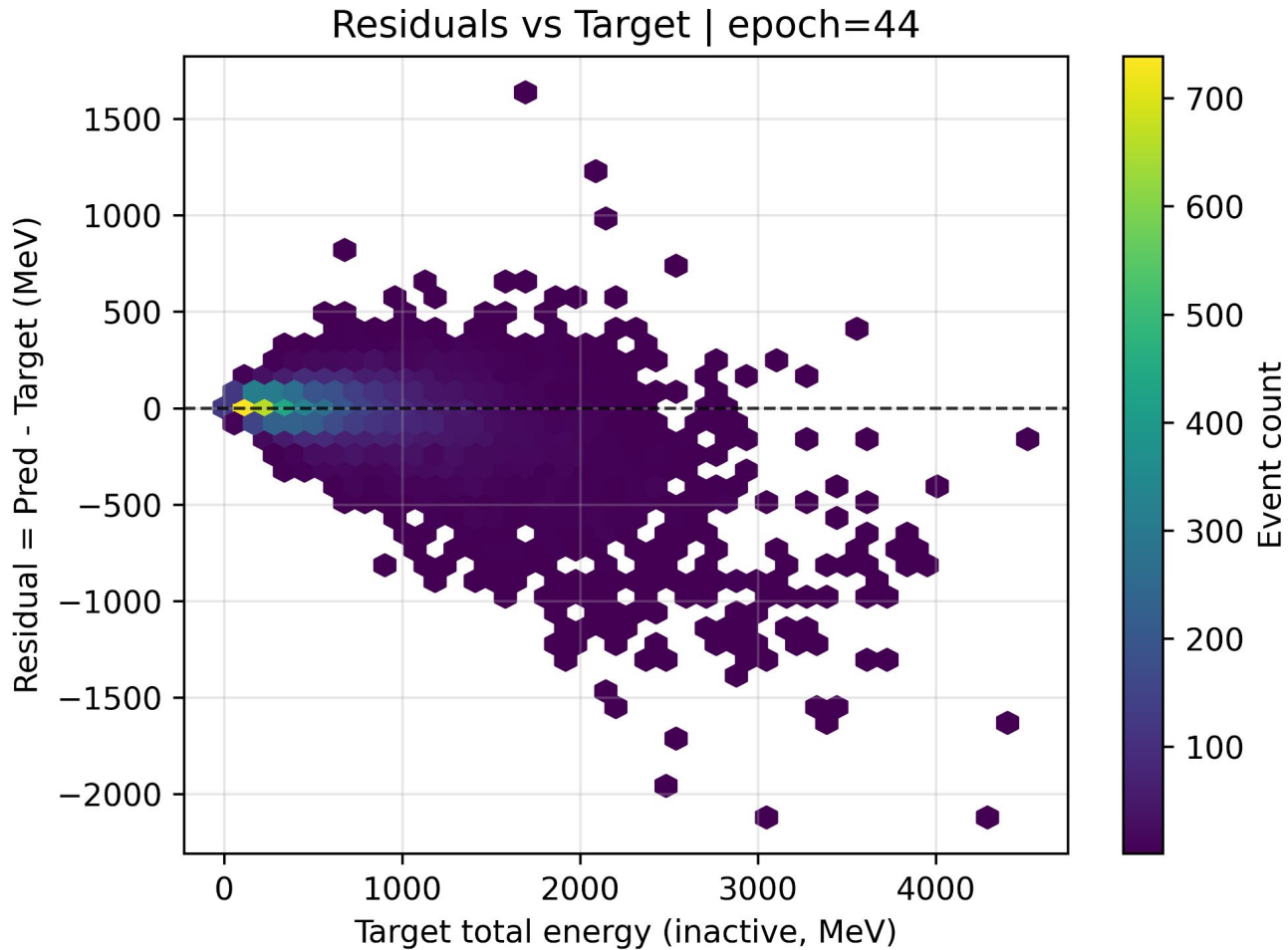
2x2-like  
7 cm inactive  
width

Current



2x2-like  
7 cm inactive  
width

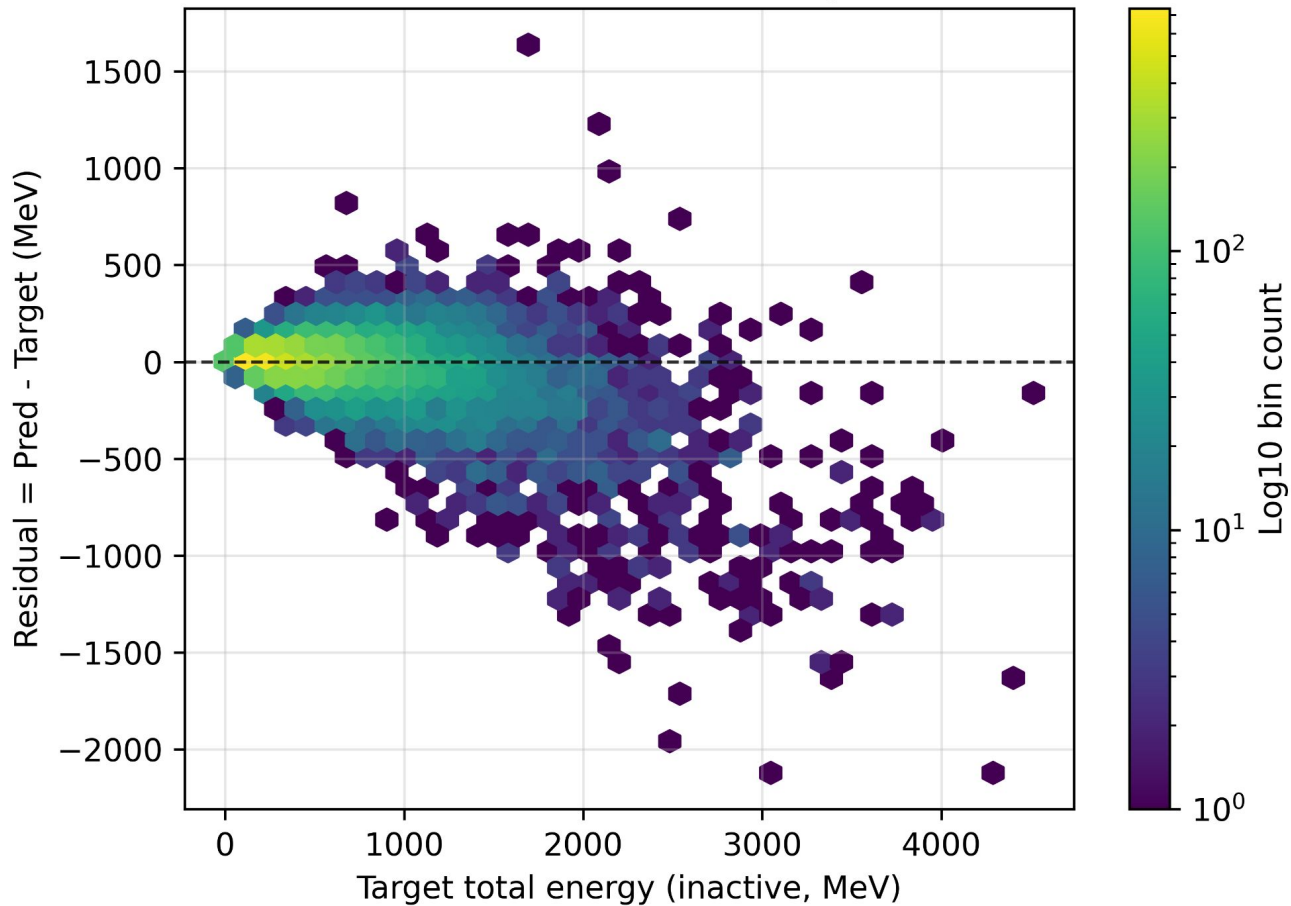
Current



Residuals vs Target (log counts) | epoch=44

2x2-like  
7 cm inactive  
width

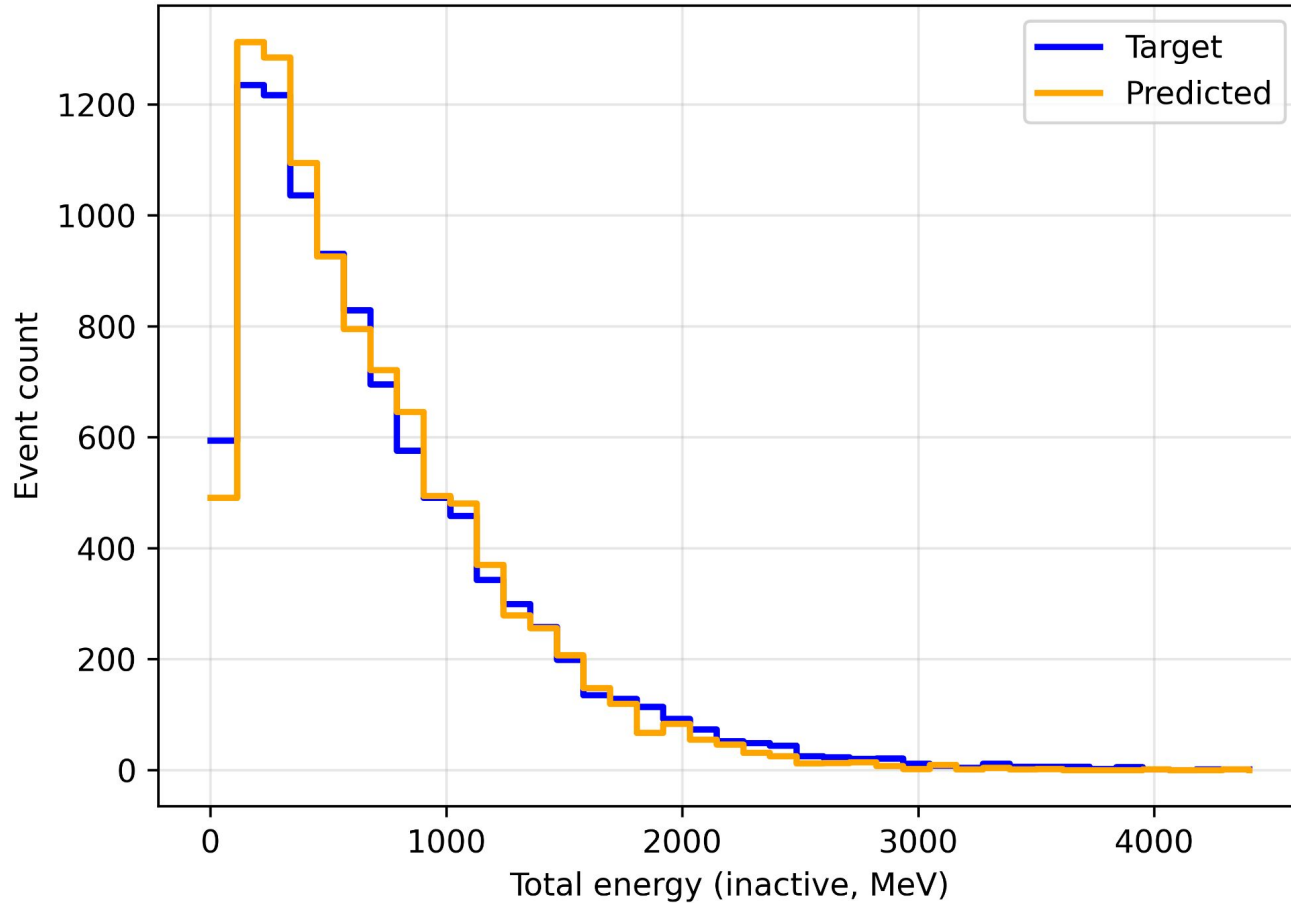
Current



Energy Distribution Comparison | epoch=44

2x2-like  
7 cm inactive  
width

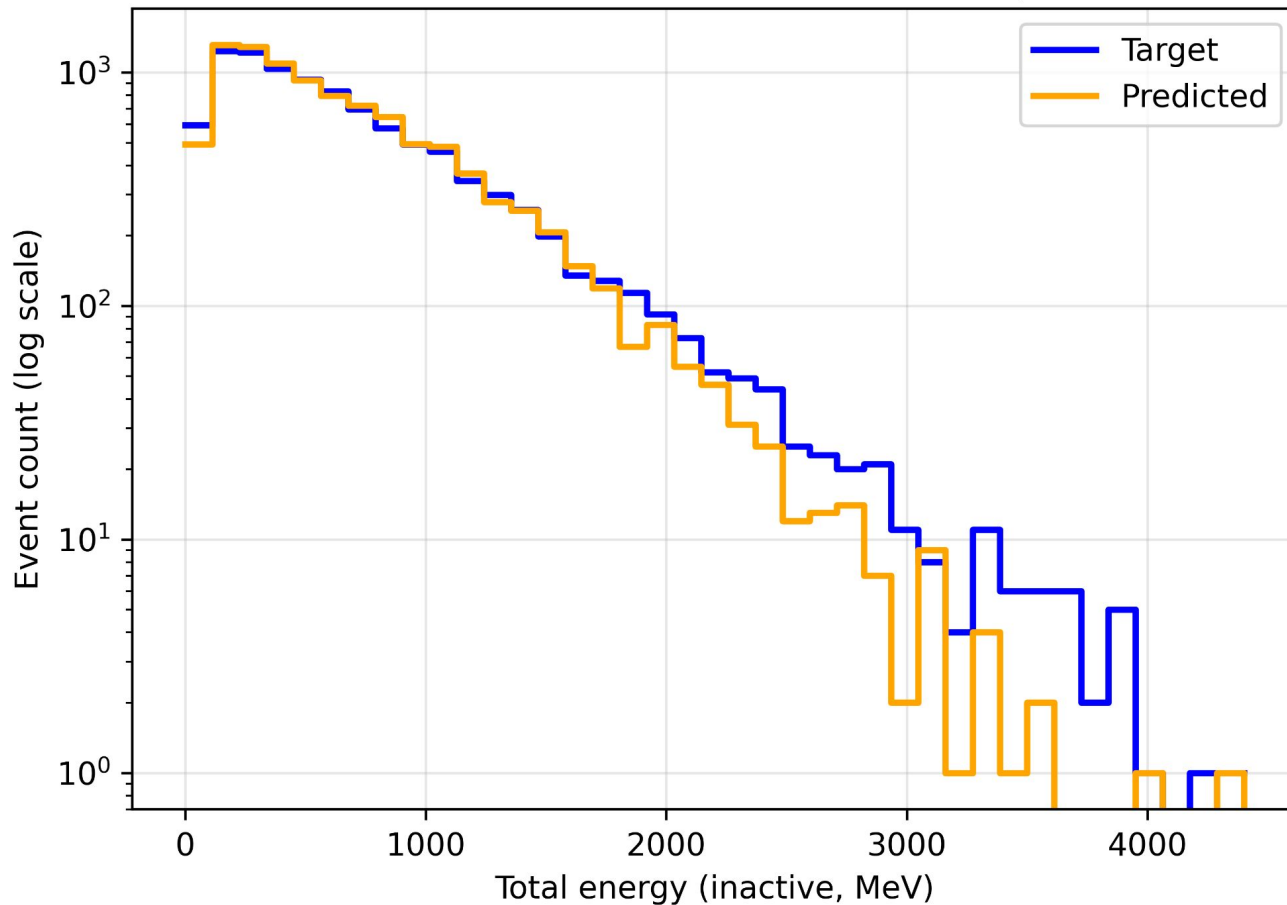
Current



Energy Distribution Comparison (log scale) | epoch=44

2x2-like  
7 cm inactive  
width

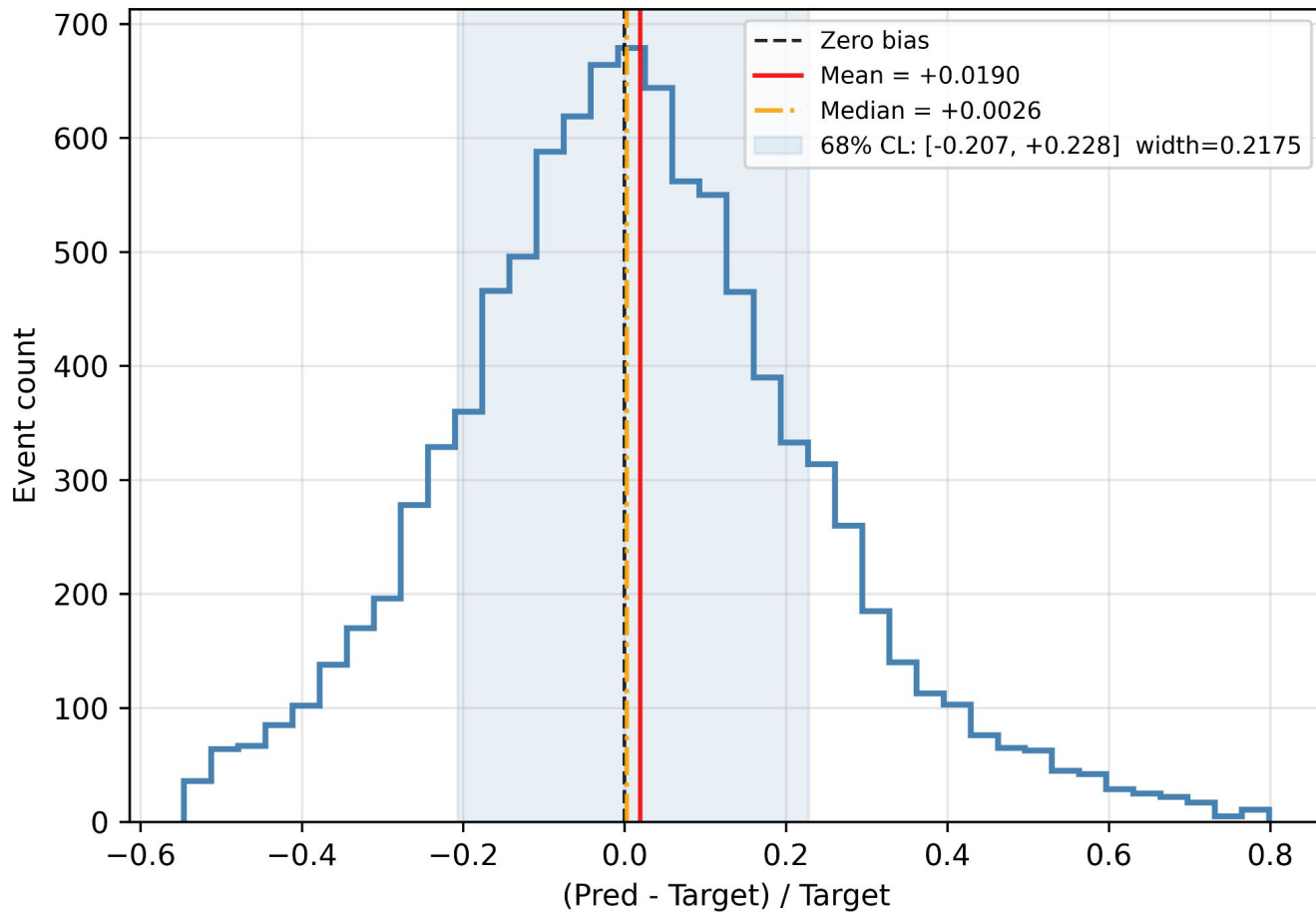
Current



Energy resolution:  $(\text{Pred} - \text{Target}) / \text{Target} \mid \text{epoch}=44$

2x2-like  
7 cm inactive  
width

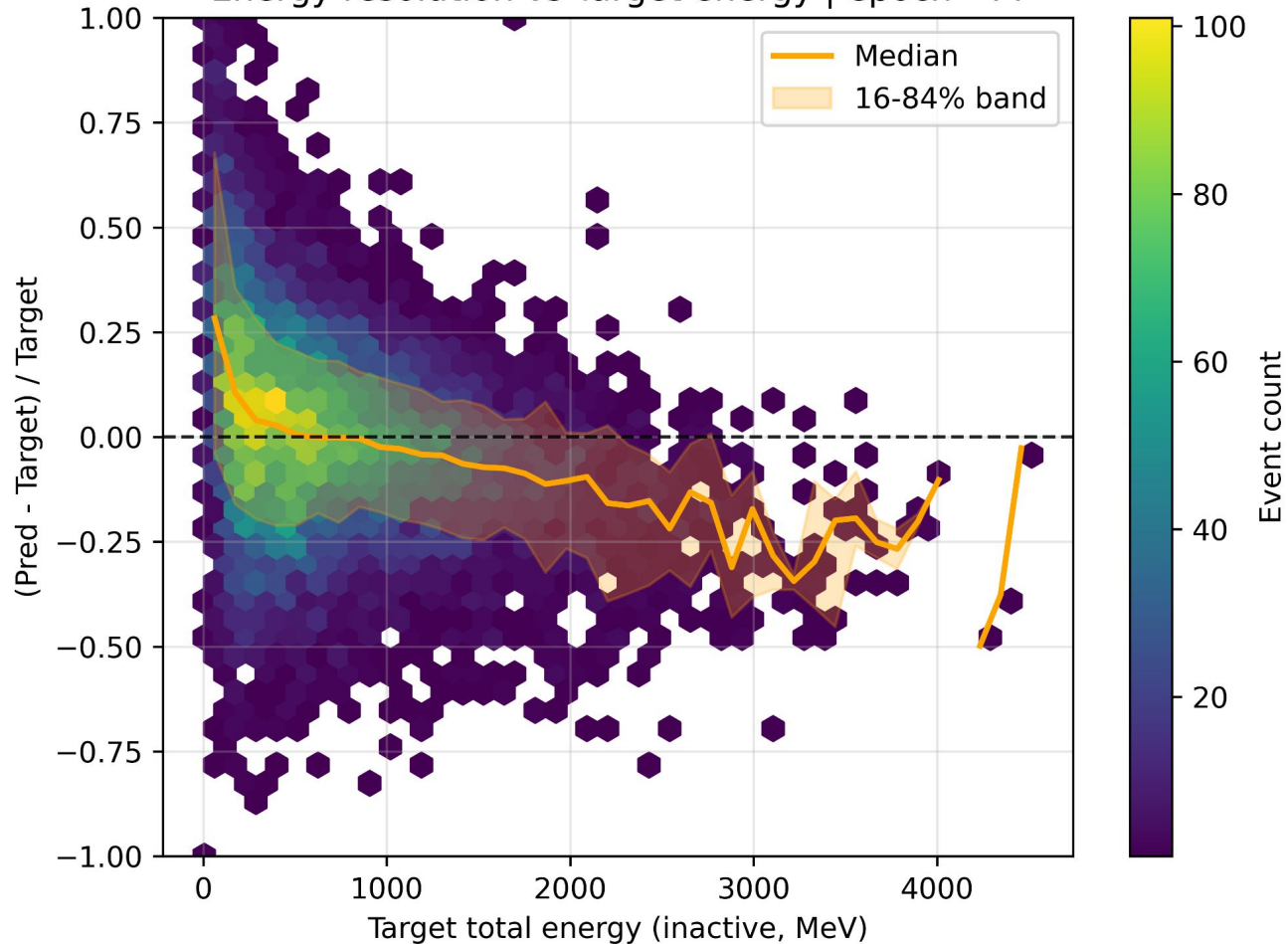
Current



Energy resolution vs Target energy | epoch=44

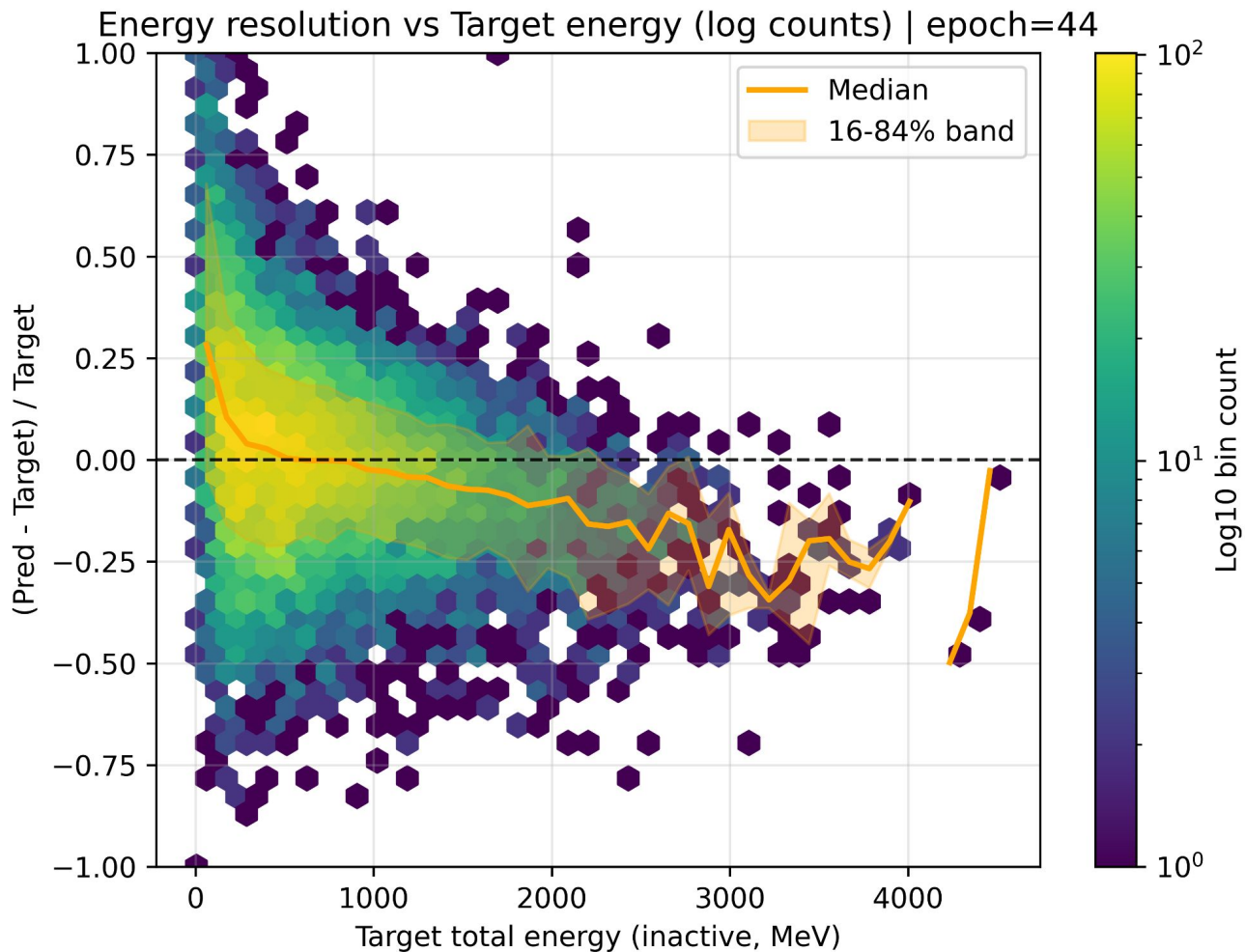
2x2-like  
7 cm inactive  
width

Current

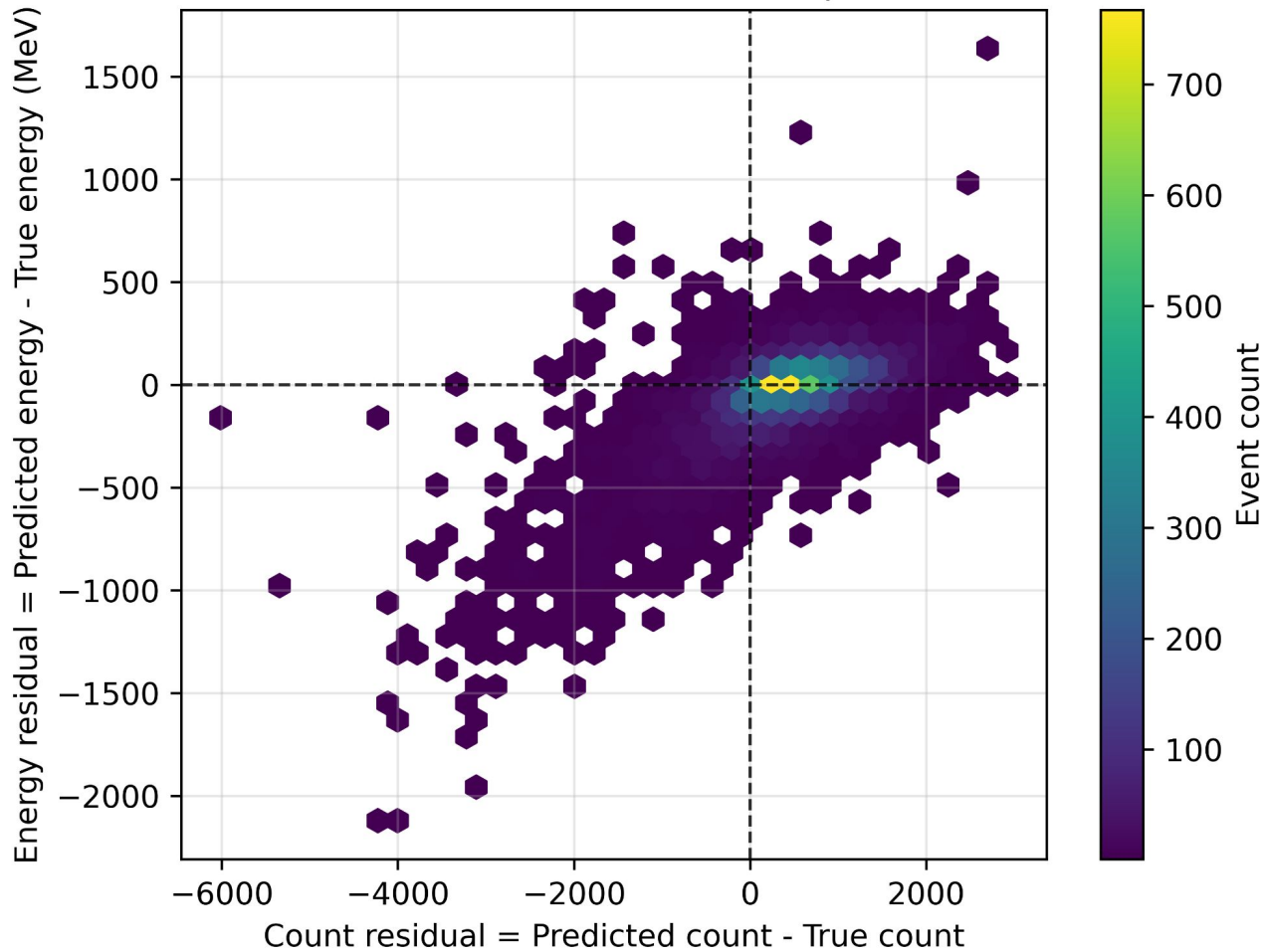


2x2-like  
7 cm inactive  
width

Current



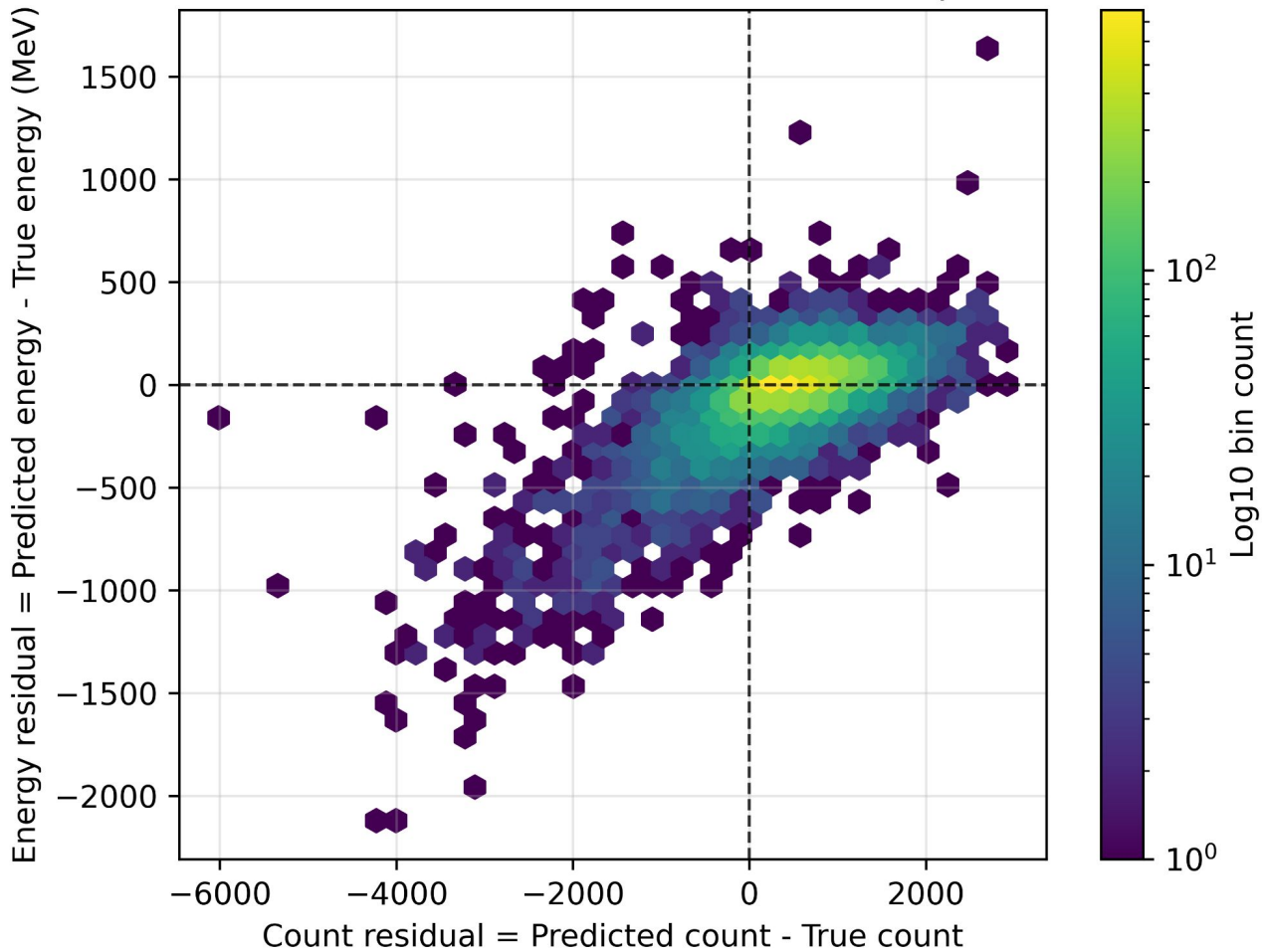
Energy residual vs Count residual | epoch=44



2x2-like  
7 cm inactive  
width

Current

Energy residual vs Count residual (log counts) | epoch=44



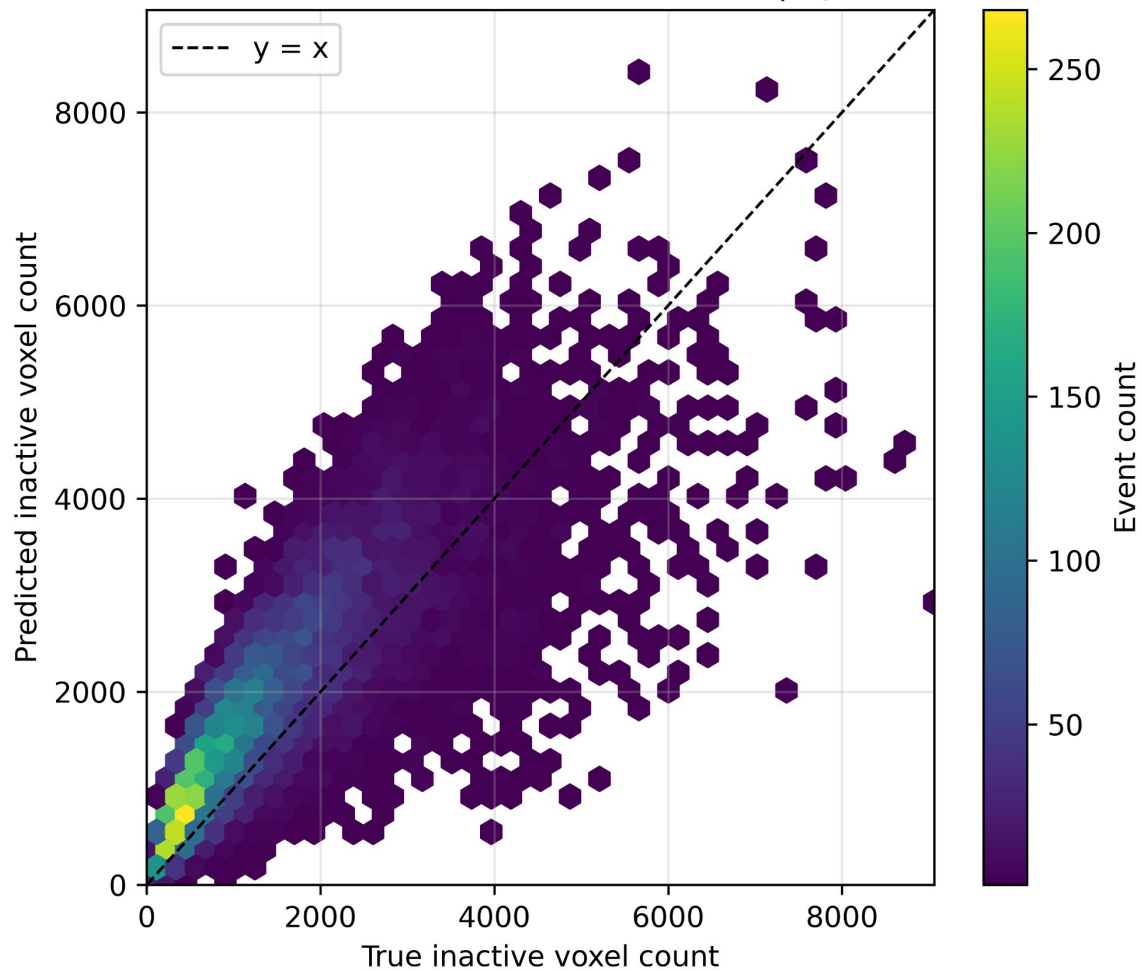
2x2-like  
7 cm inactive  
width

Current

Inactive voxel count: Predicted vs True | epoch=44

2x2-like  
7 cm inactive  
width

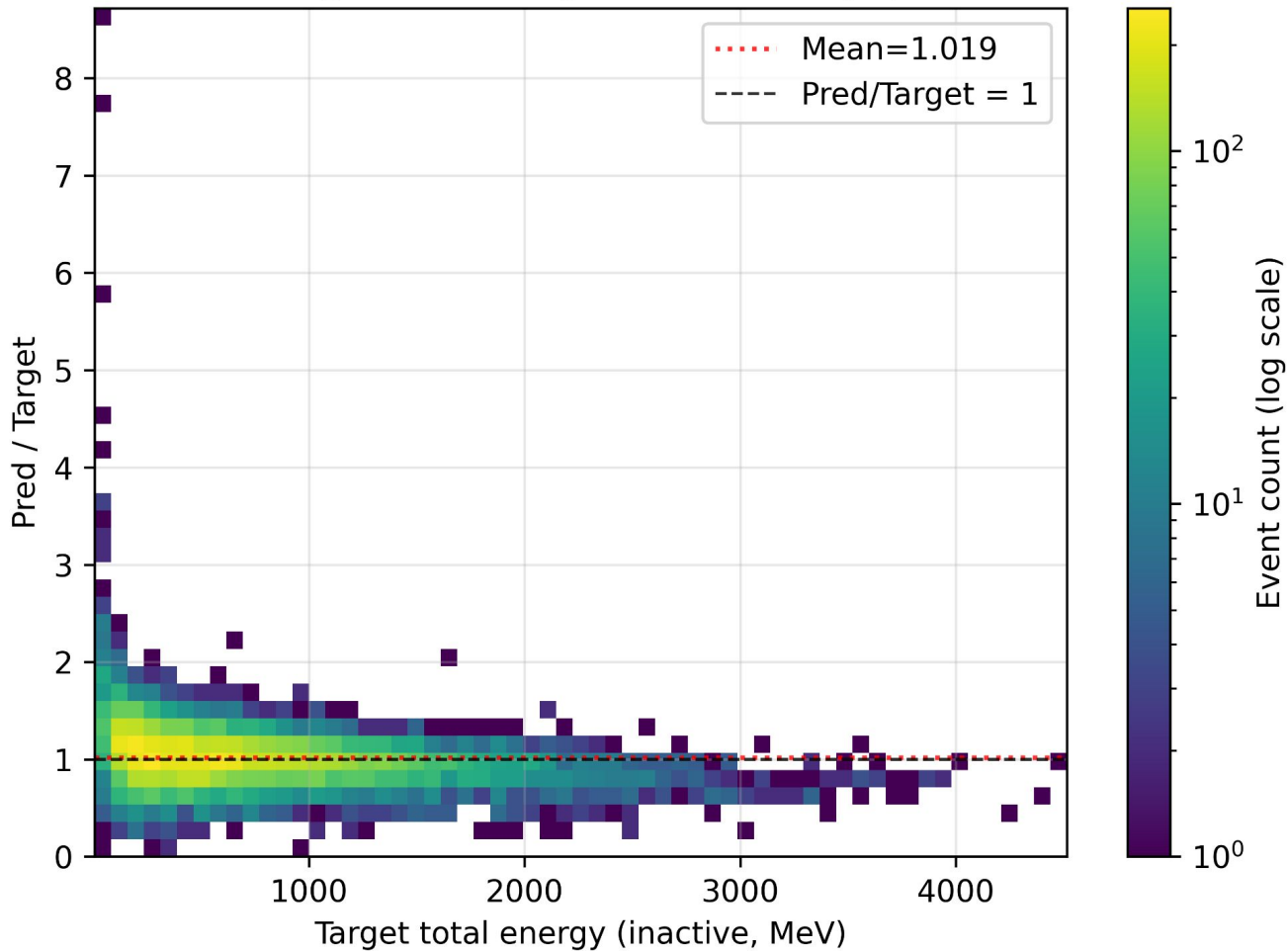
Current



Ratio vs Target (2D histogram, linear x) | epoch=44

2x2-like  
7 cm inactive  
width

Current

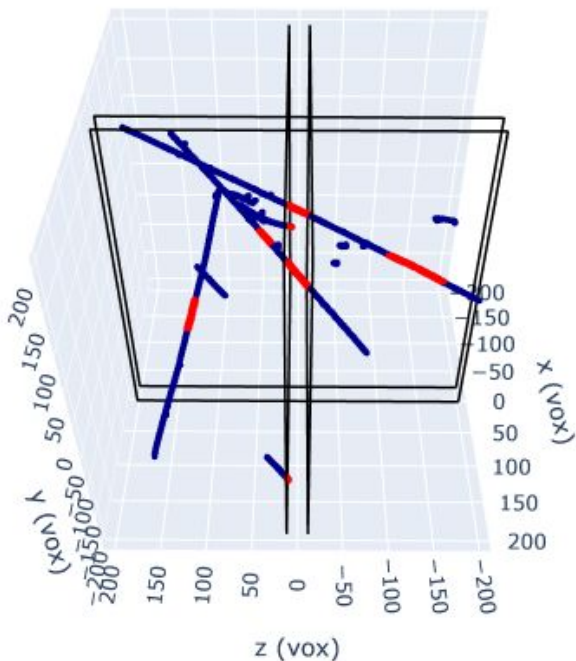


2x2-like  
7 cm inactive  
width

Predicted Energy:  
133.5 MeV

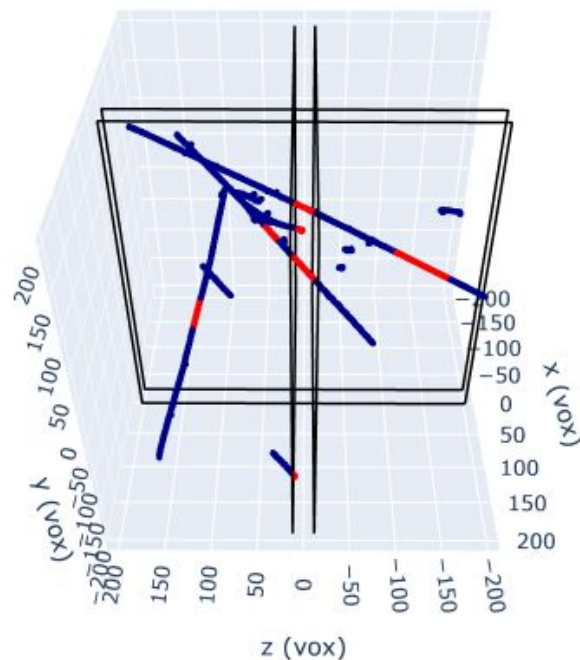
PREDICTION (inactive=pred, active=input)

Current



True Energy:  
165 MeV

TARGET



2x2-like  
7 cm inactive  
width

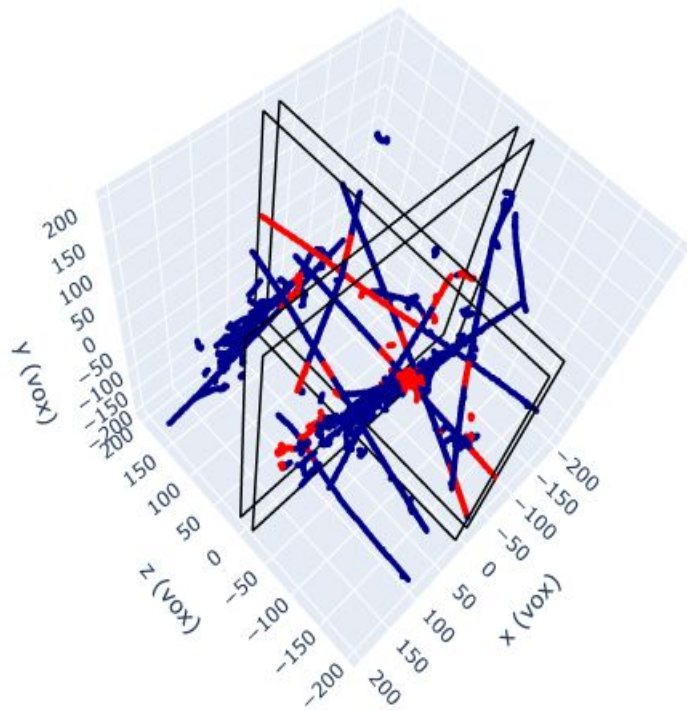
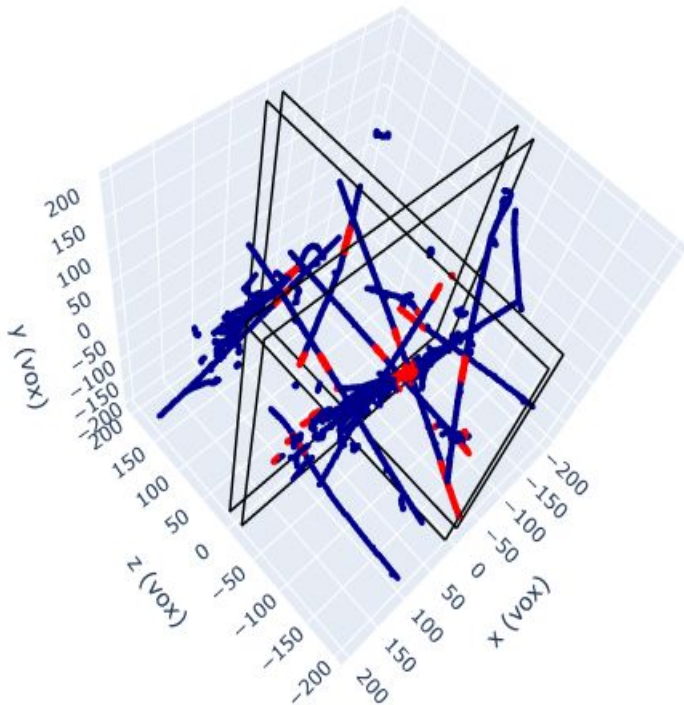
Predicted Energy:  
930.4 MeV

True Energy:  
1108 MeV

PREDICTION (inactive=pred, active=input)

TARGET

Current

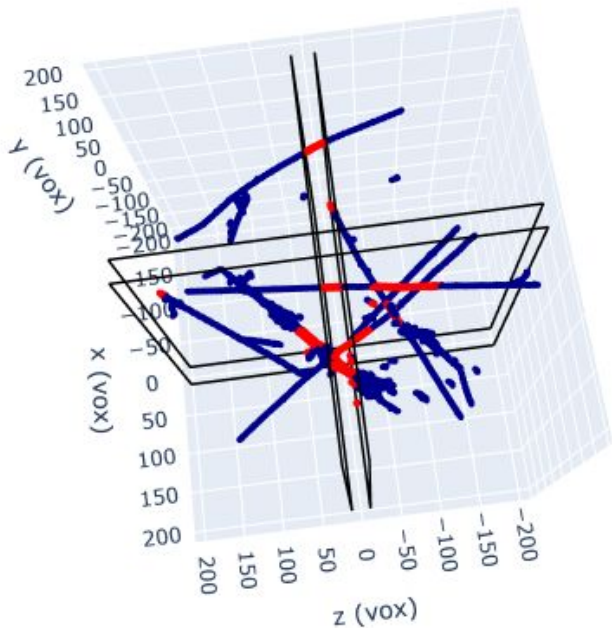


2x2-like  
7 cm inactive  
width

Predicted Energy:  
909 MeV

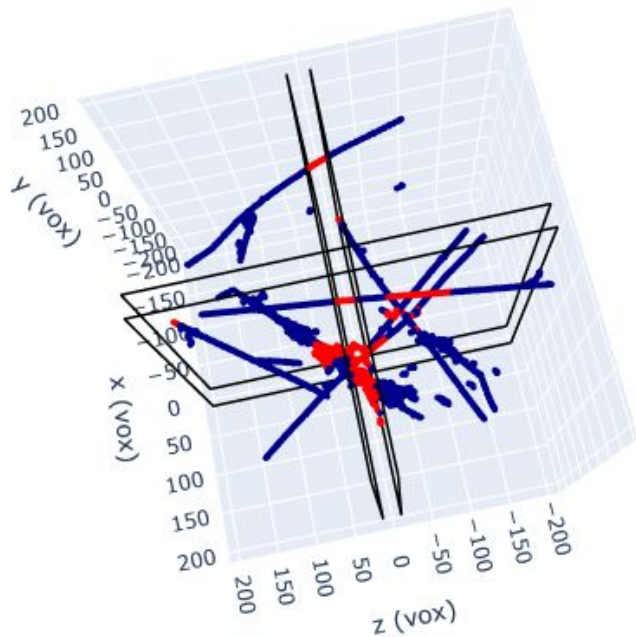
PREDICTION (inactive=pred, active=input)

Current



True Energy:  
1086 MeV

TARGET



2x2-like  
7 cm inactive  
width

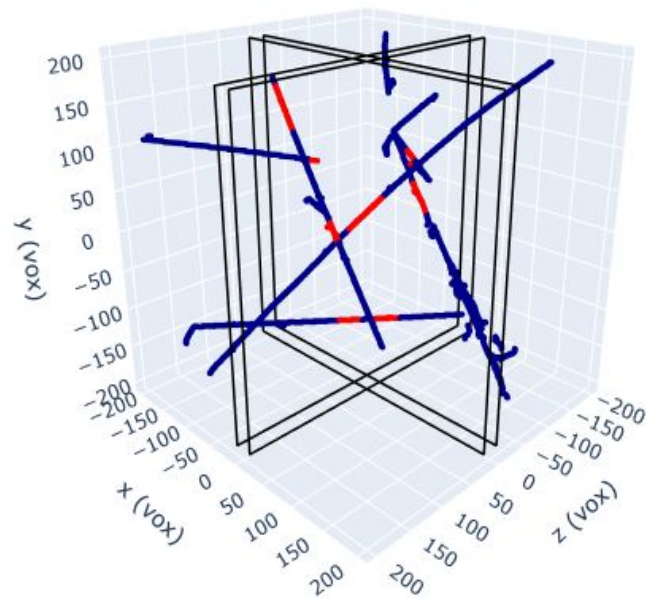
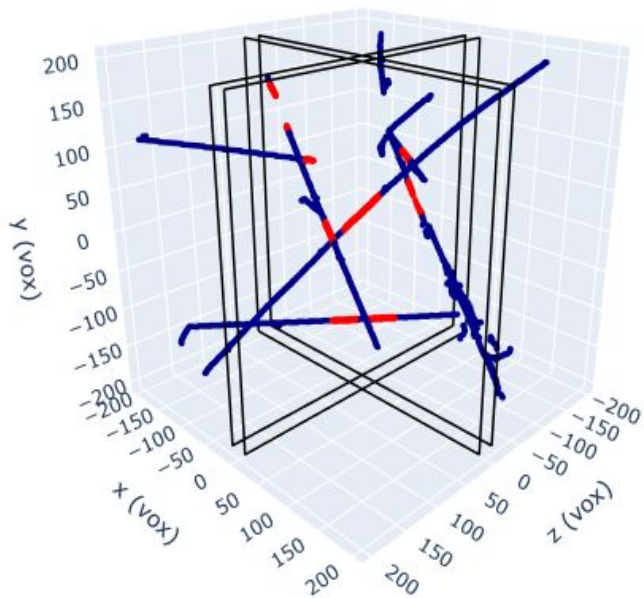
Predicted Energy:  
239.4 MeV

True Energy:  
236.1 MeV

PREDICTION (inactive=pred, active=input)

TARGET

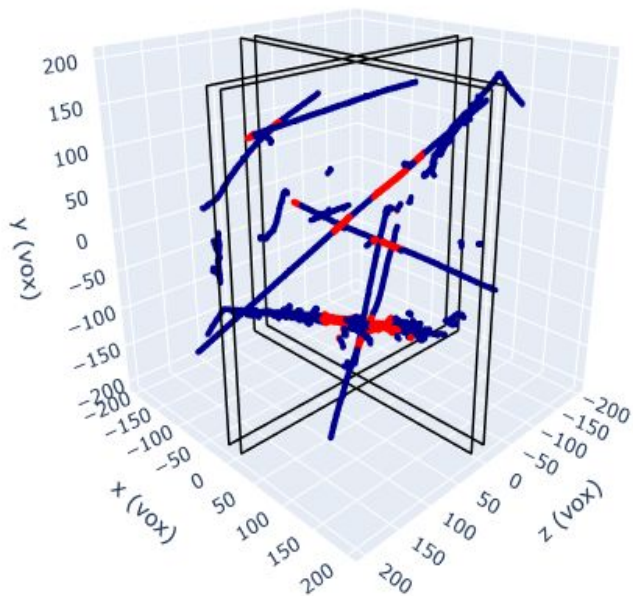
Current



2x2-like  
7 cm inactive  
width

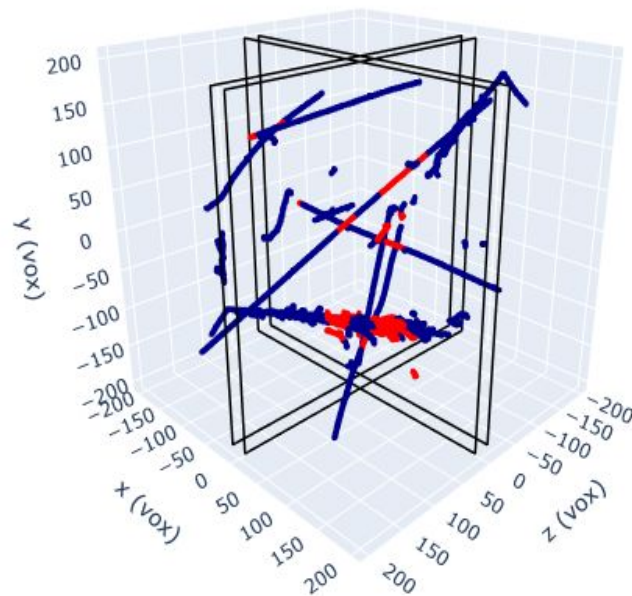
Predicted Energy:  
909 MeV

PREDICTION (inactive=pred, active=input)



True Energy:  
1086 MeV

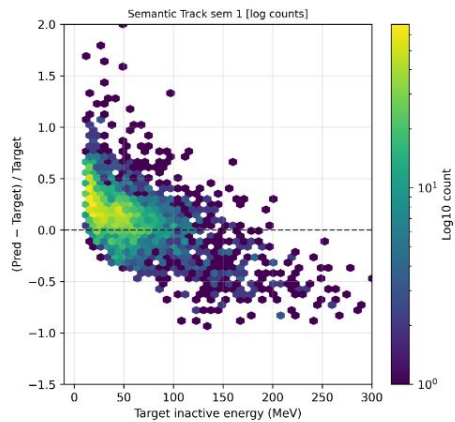
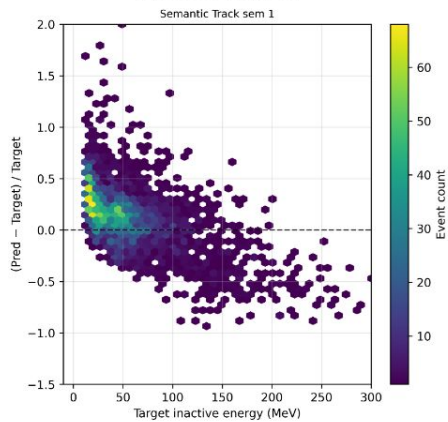
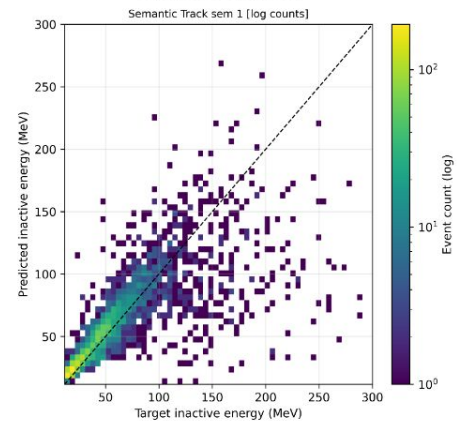
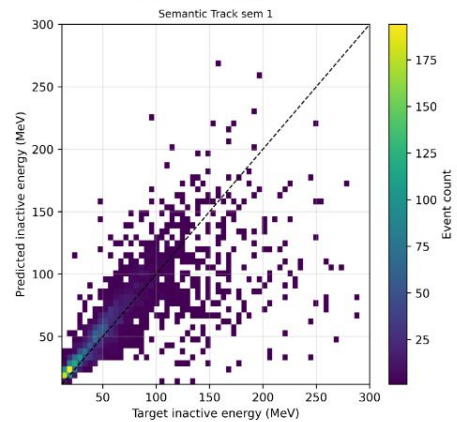
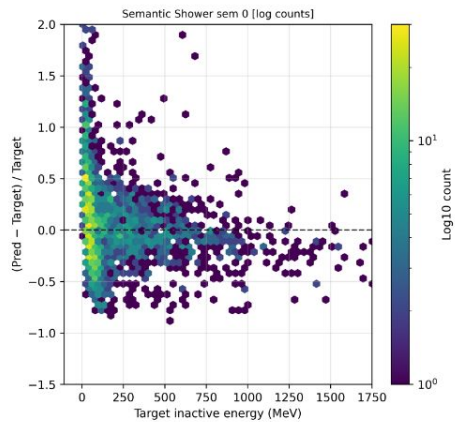
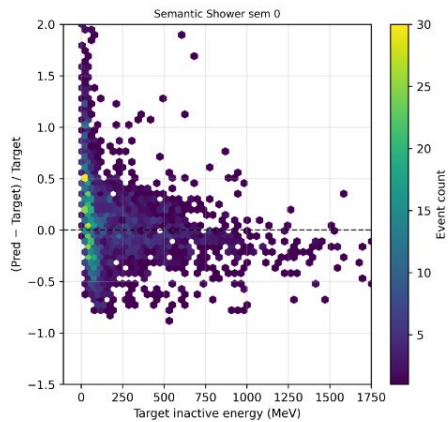
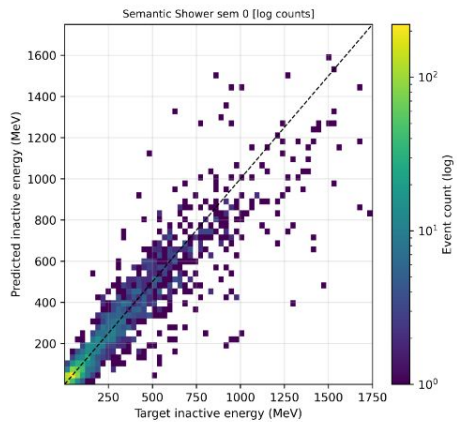
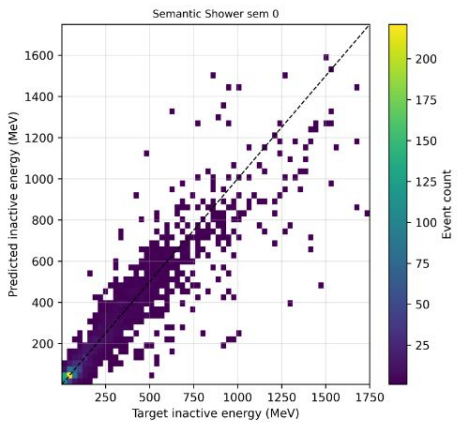
TARGET



Current

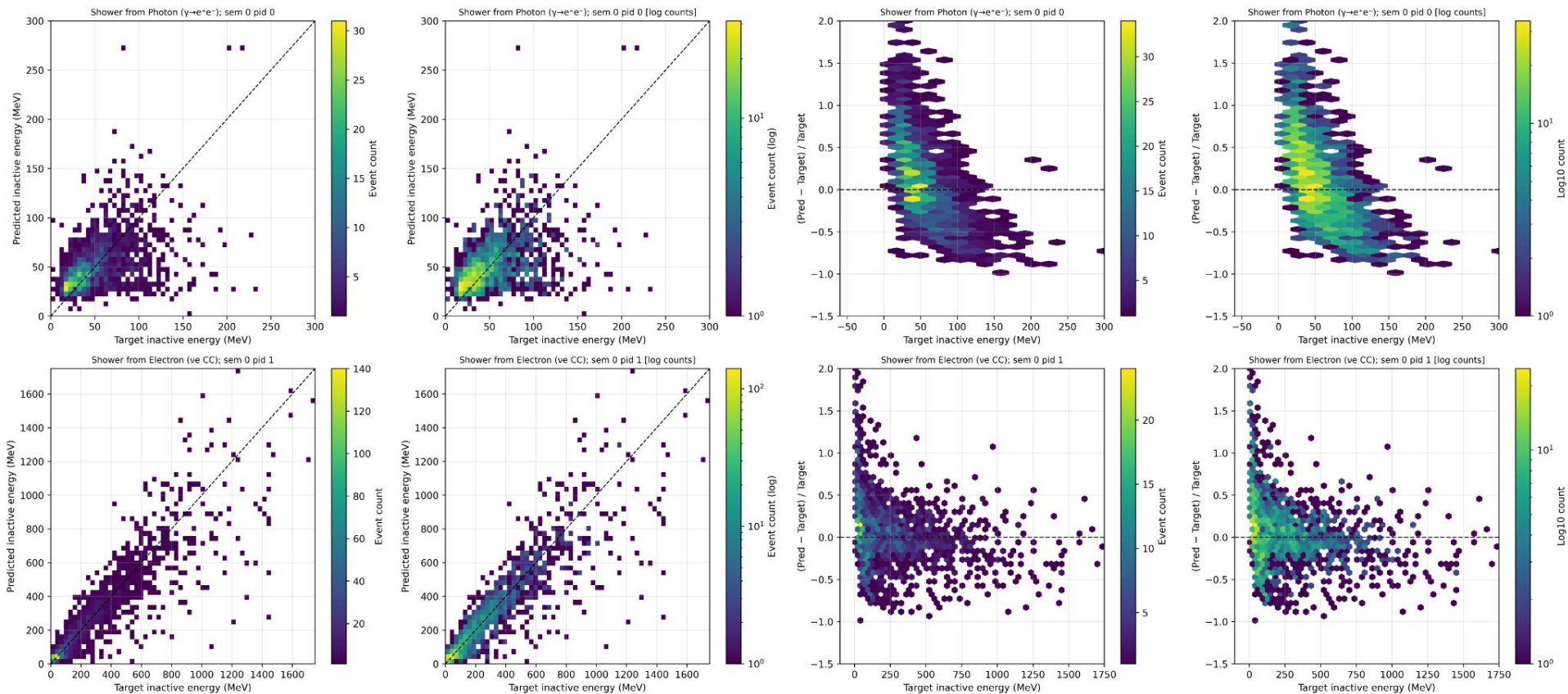
NEW

↓ Showers



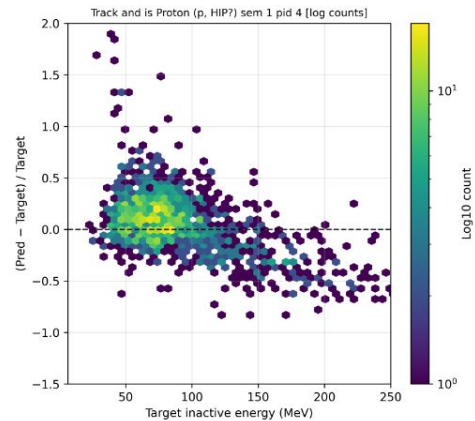
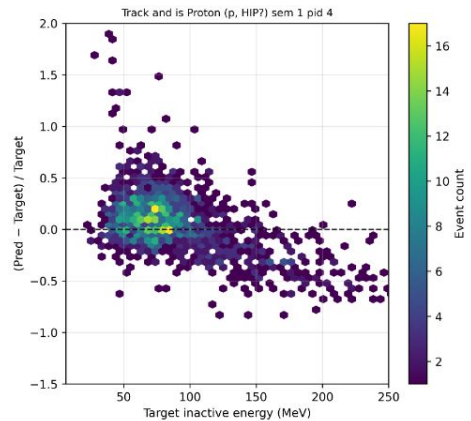
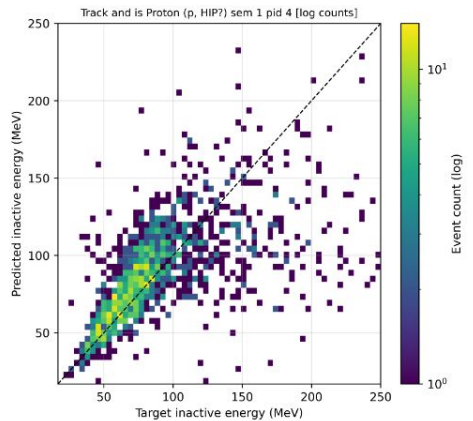
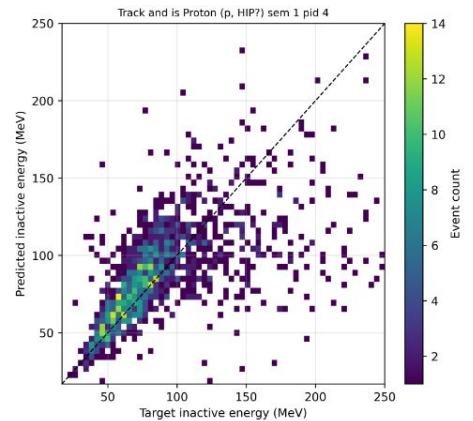
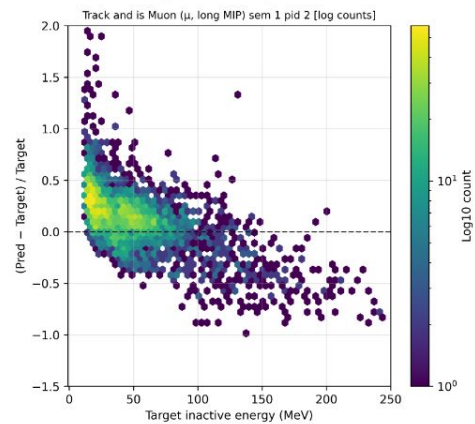
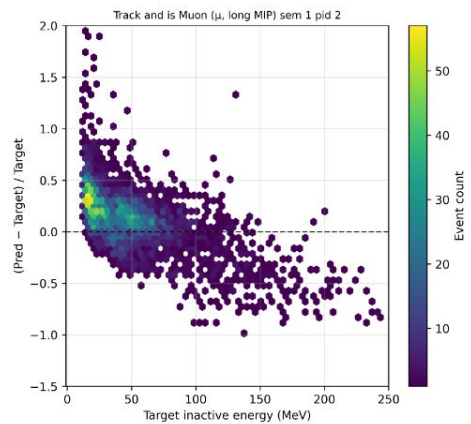
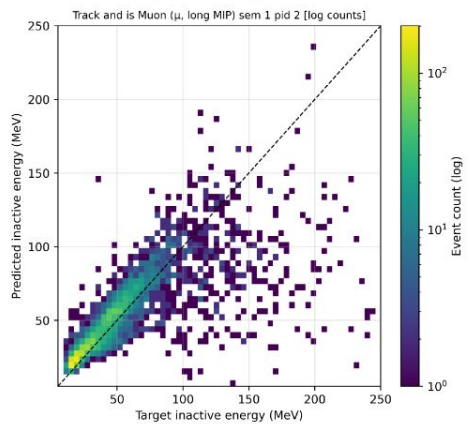
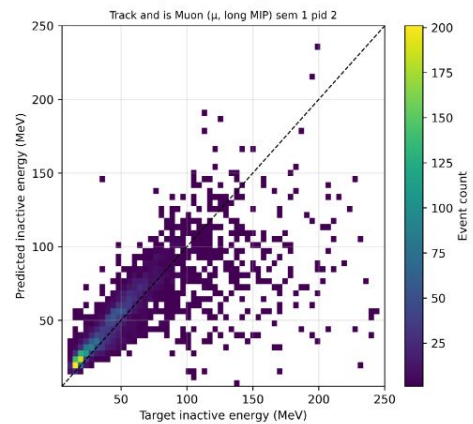
↑ Tracks

# ↓ Electron Showers from Photon Pair Production



# ↑ Electron Showers from Electron (ve CC)

↓ Muons (MIPs)



↑ Protons (HIPs?)

- No replacement at the moment! Including validation objects to increase physics pool by  $\sim 2x$ .
- Plan:
  - Allow for replacement. Sample to my heart's content.
    - The sampler places objects at random, so this should be ok.
  - Repeat everything for NDLAr -- many, many, many more objects per spill. This should be interesting...
  - Show LArDRIP\_WarpConvNet (WCN)
  - Show LArDRIP\_2D for both ME and WCN