



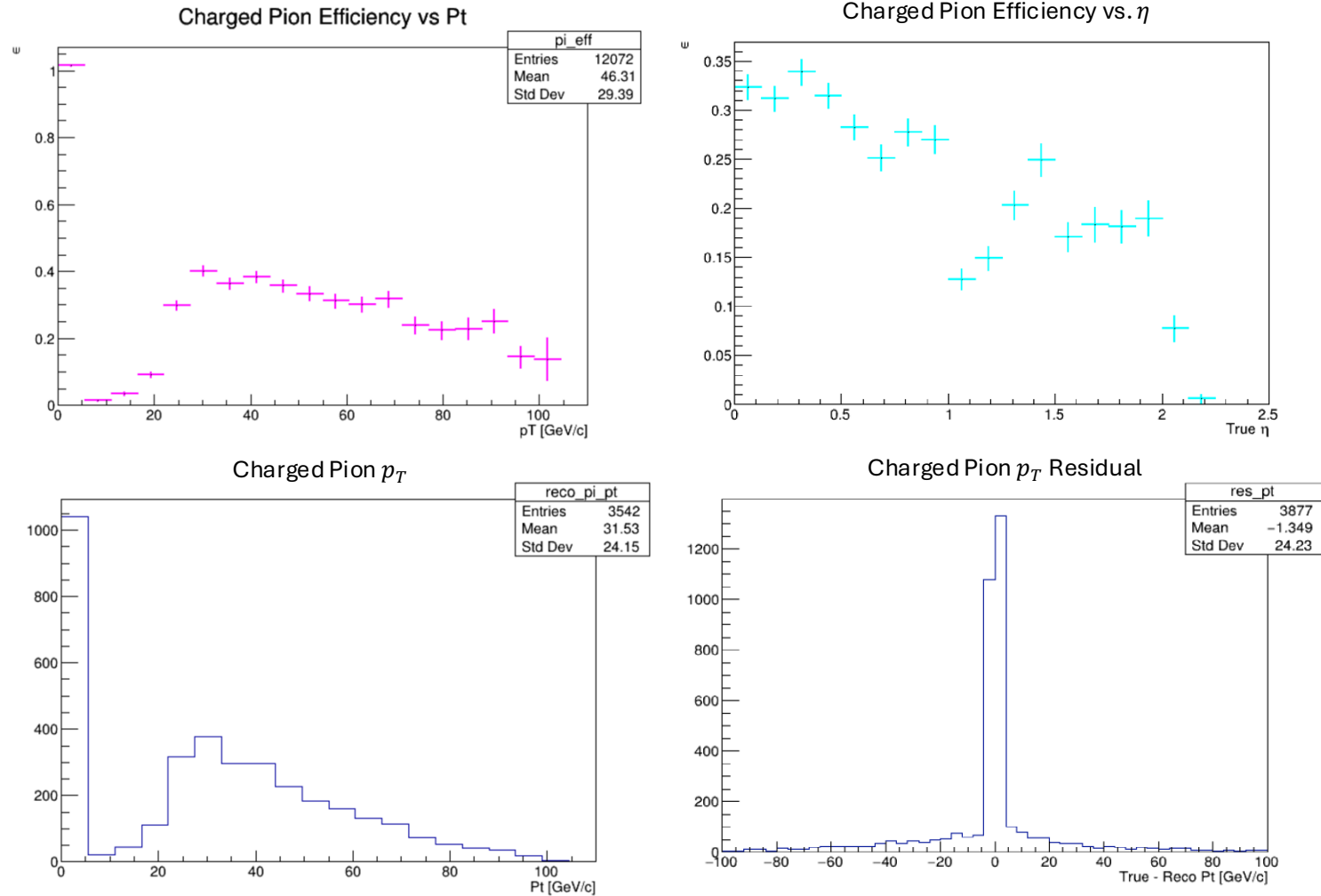
Taus @ Muon Collider

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Previous Findings

- First look (for us) presented [Nov 13](#)
 - Taking tau gun through Fermilab 2024 [tutorial](#)-like analysis



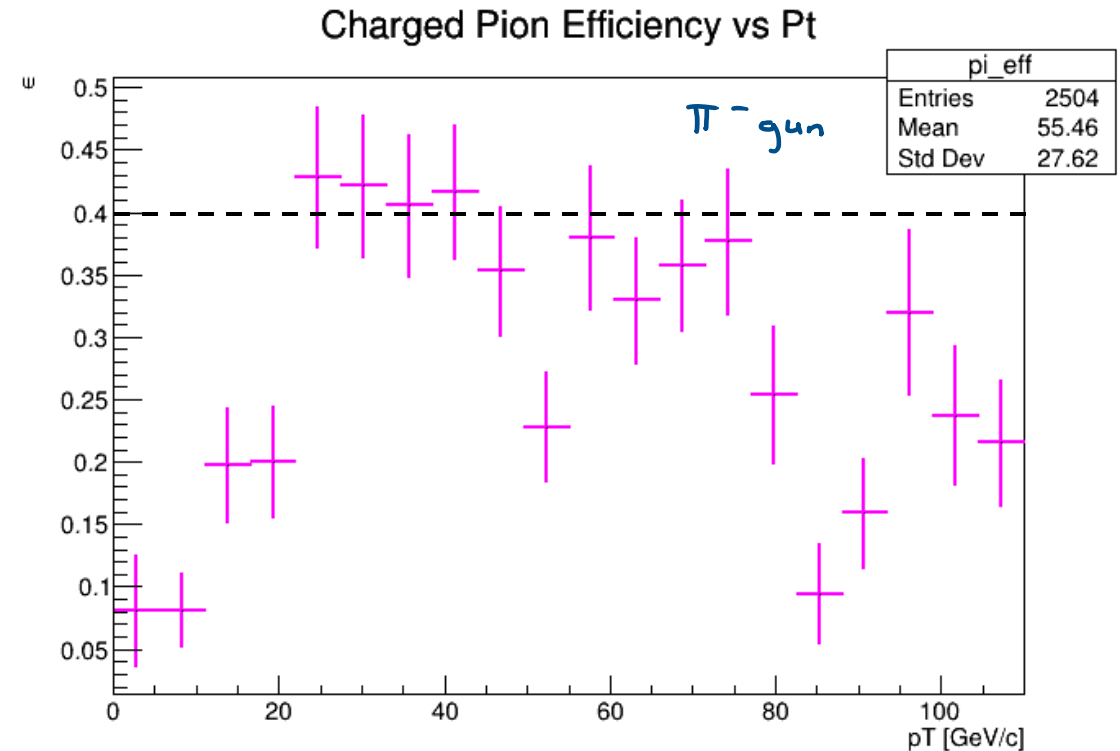
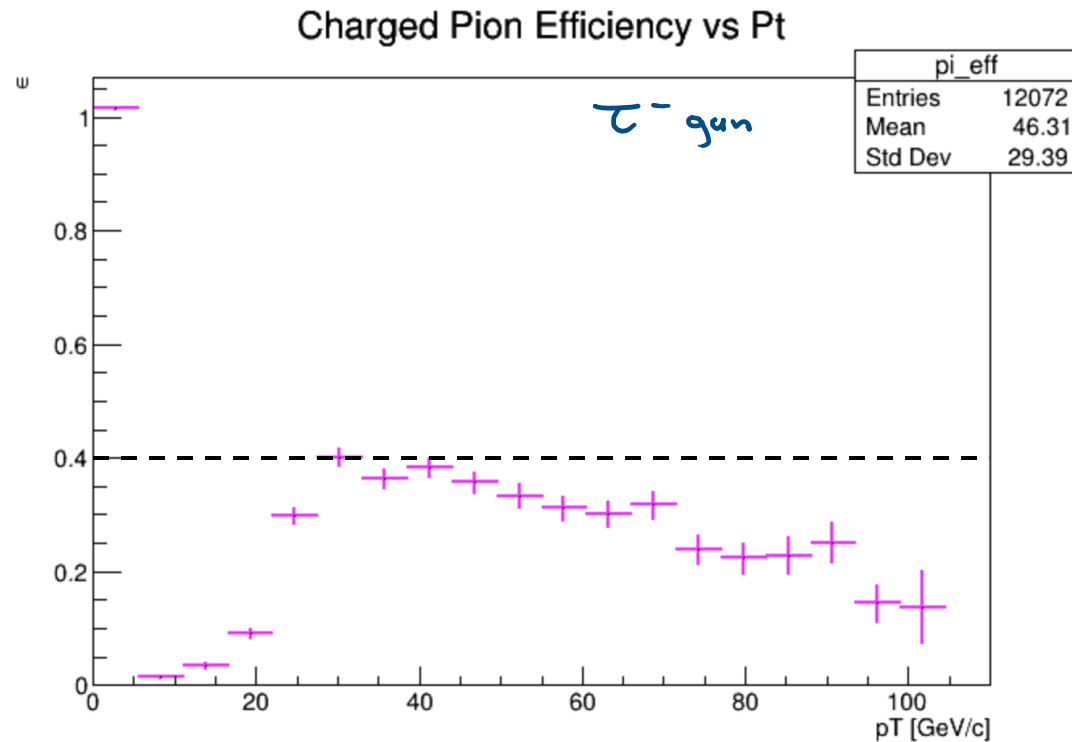
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Surprising! Does not seem to be the culprit.

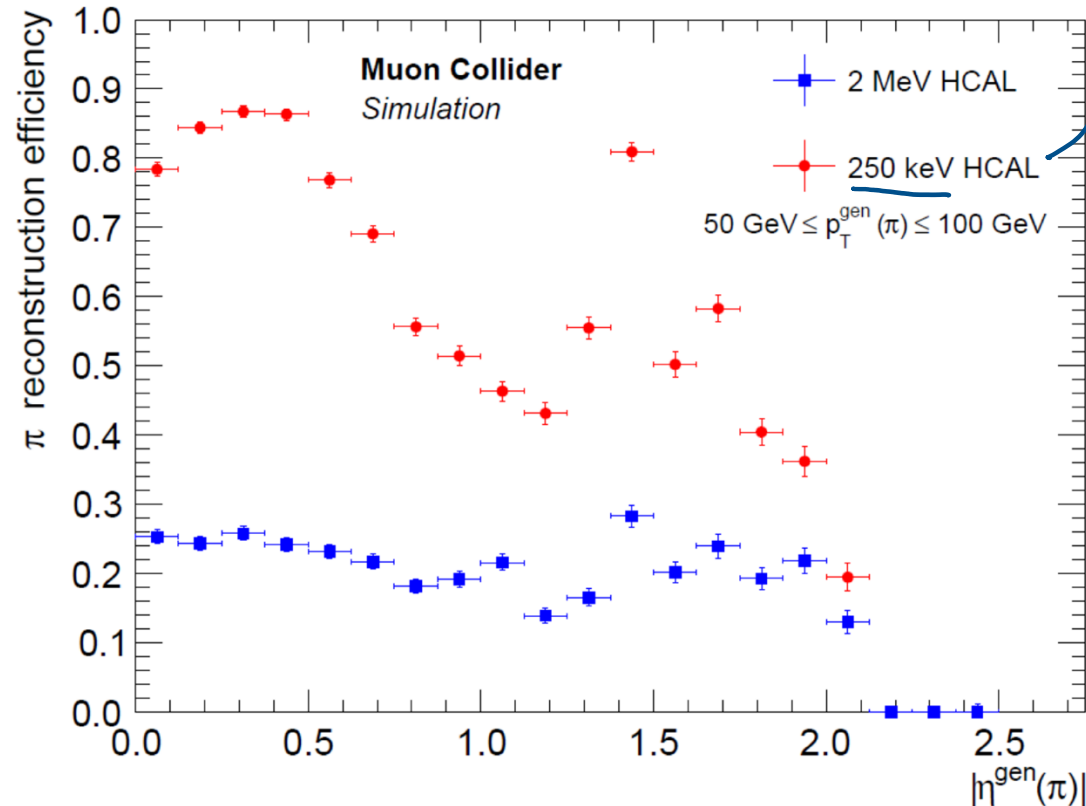
Charged Pion Efficiency

- A few comments on the charged pion efficiency:

- Hadronic collection bug ([link](#)) → checked to not be the case
- Track-to-cluster matching failing due to displaced pion vertex → compare efficiencies between π^-/τ^- μ collider
- Playing around with CAL energy thresholds → next on to-do!

Plot from Lorenzo Valla's update in MuCol WP2 meeting Nov 26 ([link](#))

We encountered challenges with subtle unit conversion...



feels so low for a 3 TeV μ collider!

Discussion

- Still have a lot of work to do to regain charged pion efficiency
 - Play around with calorimeter energy thresholds
- Lorenzo Valla has MuColl_v1 well covered
 - Switch to MAIA next semester!
- Ethan (and I) on board next semester!
 - (Ethan's spring schedule conflicts with this time)

Thanks!