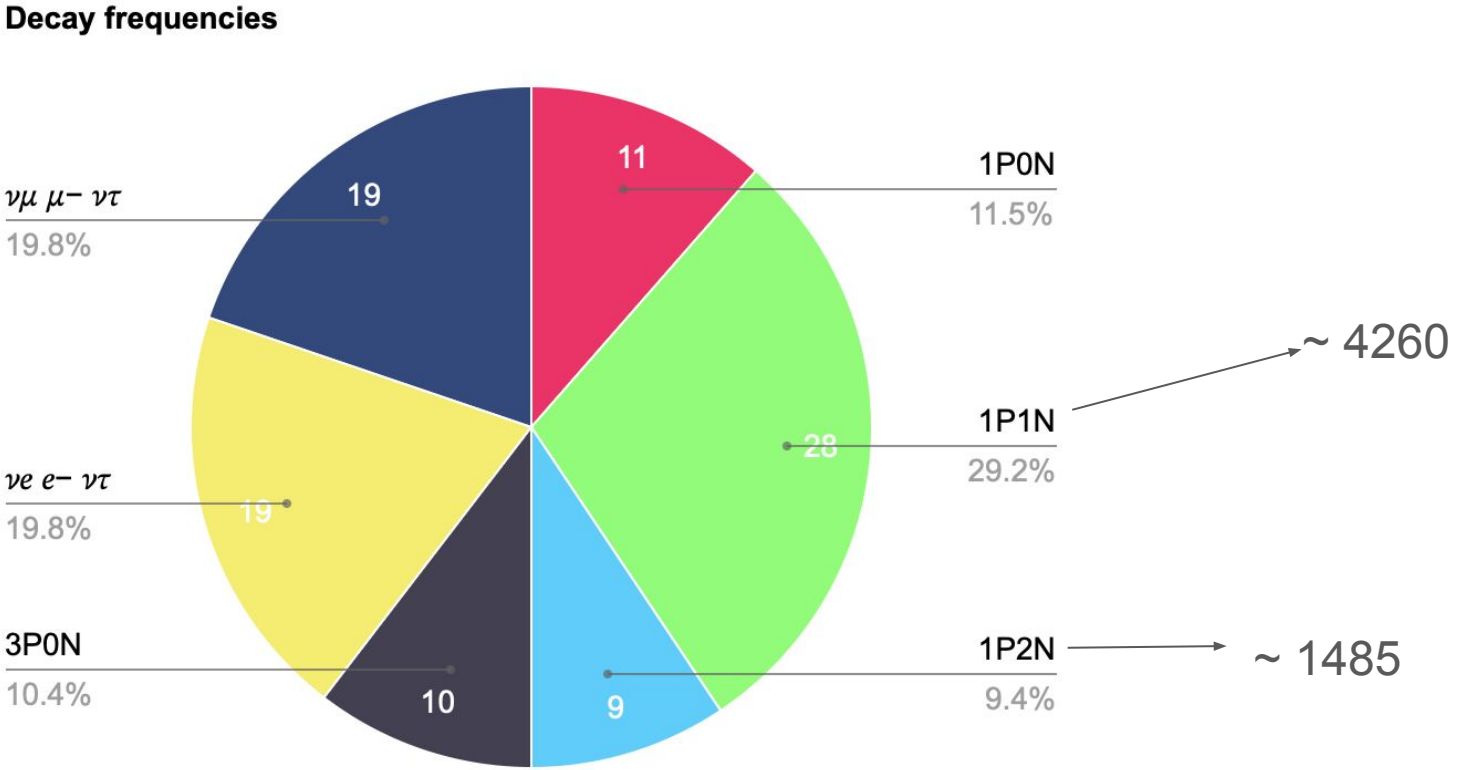
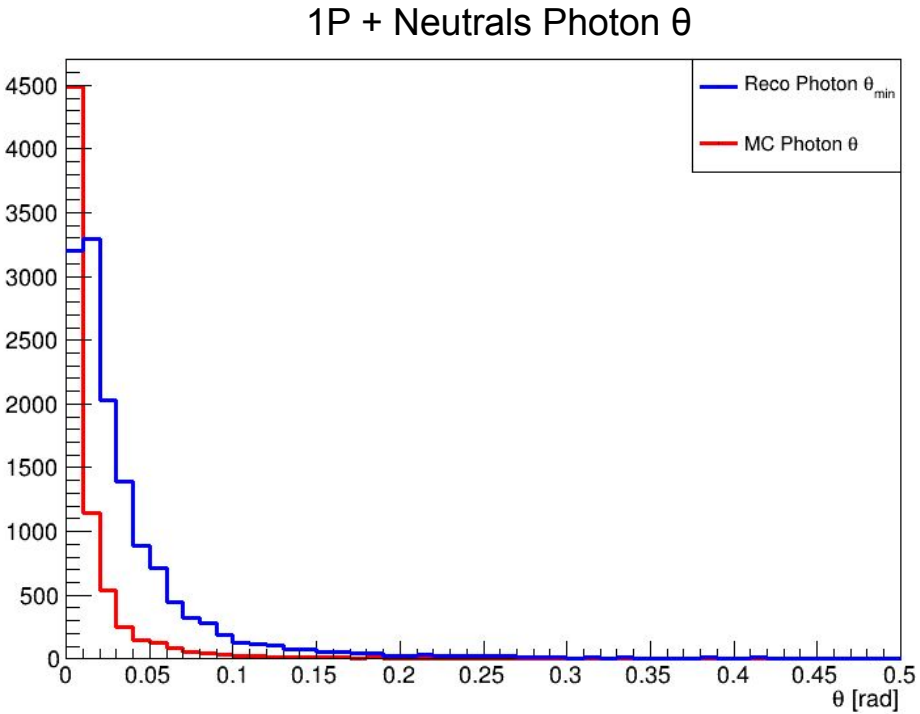
7/16 - Taufinder weekly

Hunting neutrals



Note: 1P3N and 3P1N are not simulated

Initial π^0 observations



- Only events from MC 1P1N and 1P2N decays with > 2 reco γ considered
- Only MC photons from MC π^0 considered
- θ_{min} = smallest between two reco γ in an event
  - Not allowing re-use
- Doesn't appear viable to try and reconstruct the π^0 based on separation

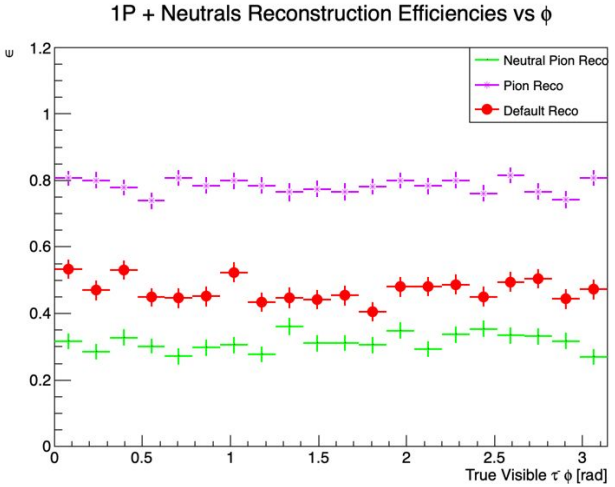
Proposed analysis: Consider all reco γ as reco π^0

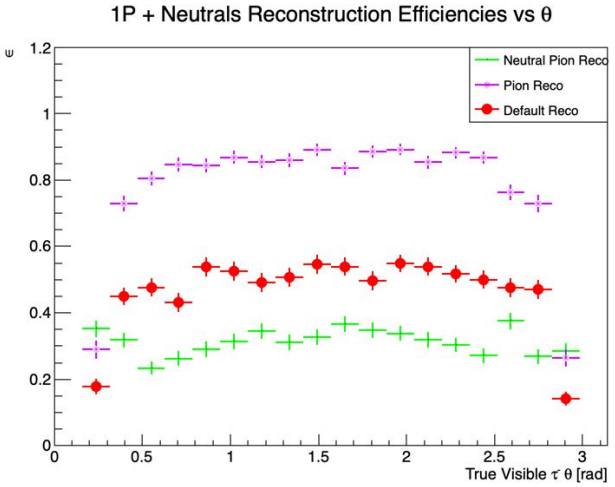
Preliminary efficiencies

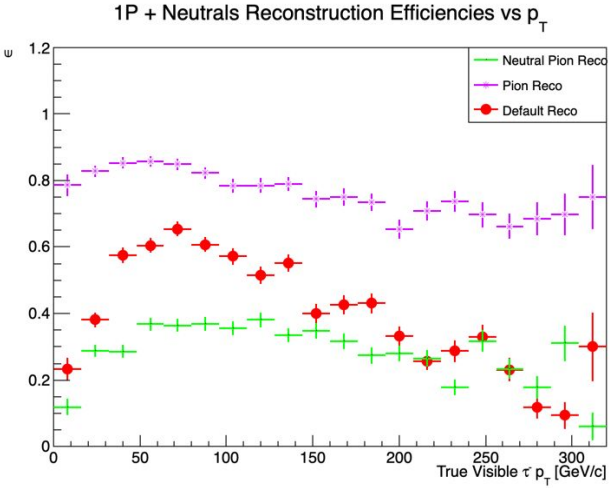
$$\epsilon_{\pi^0} = \frac{\#\, of\ Reco\, \gamma\ Linked\, with\ Unique\ MC\ \pi^0}{\#\, of\ MC\ \pi^0}$$

$$\epsilon_{\tau} = \frac{\#\, of\ Reco\, Neutral\ \tau\ Linked\, with\ Neutral\ MC\ \tau}{\#\, of\ Neutral\ MC\ \tau}$$

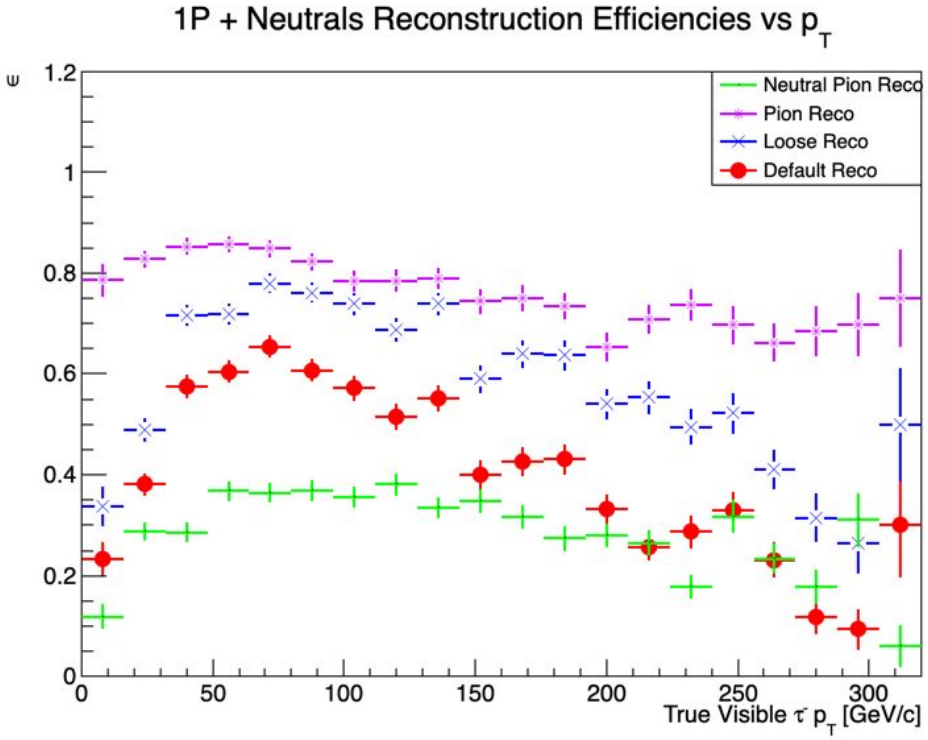
- To be considered a linked 1-prong + neutrals reco τ:
  - Link to a 1-prong MC τ that decays with π^0
  - Have 1-reco-prong
  - Have > 0 reco γ



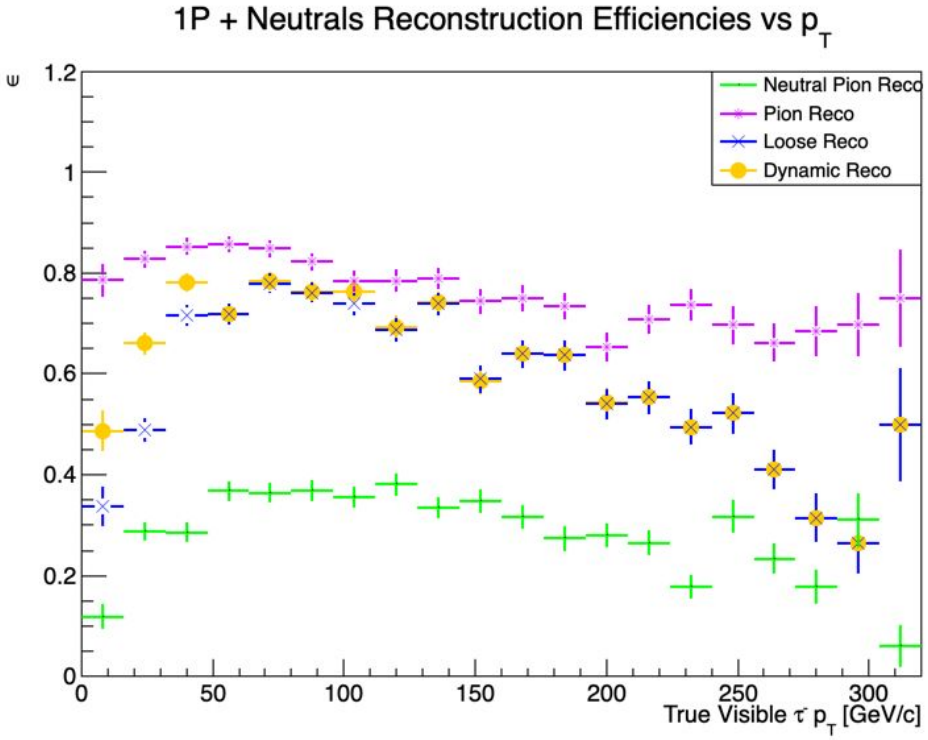




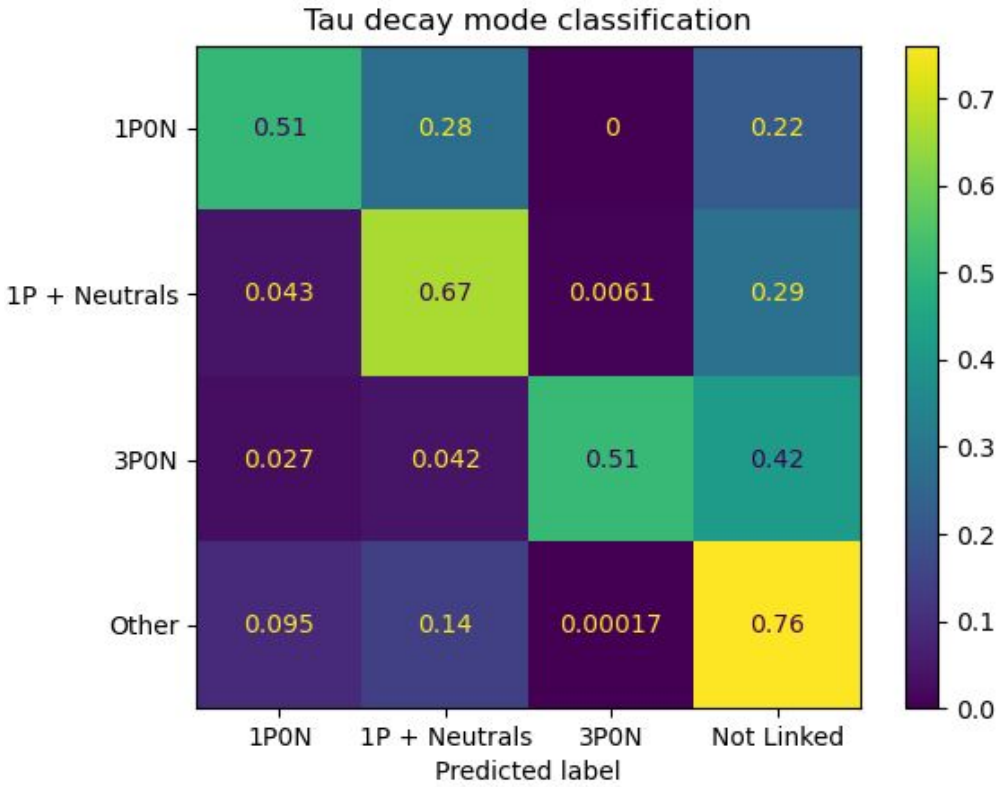
Loose changes



Dynamic changes



Confusion matrix view



Note: dynamic setting

Next steps:

- Figure out lingering issues in the ana script
- Look into the “other” reconstruction category
- From here see what changes can be made to classifying the decay mode