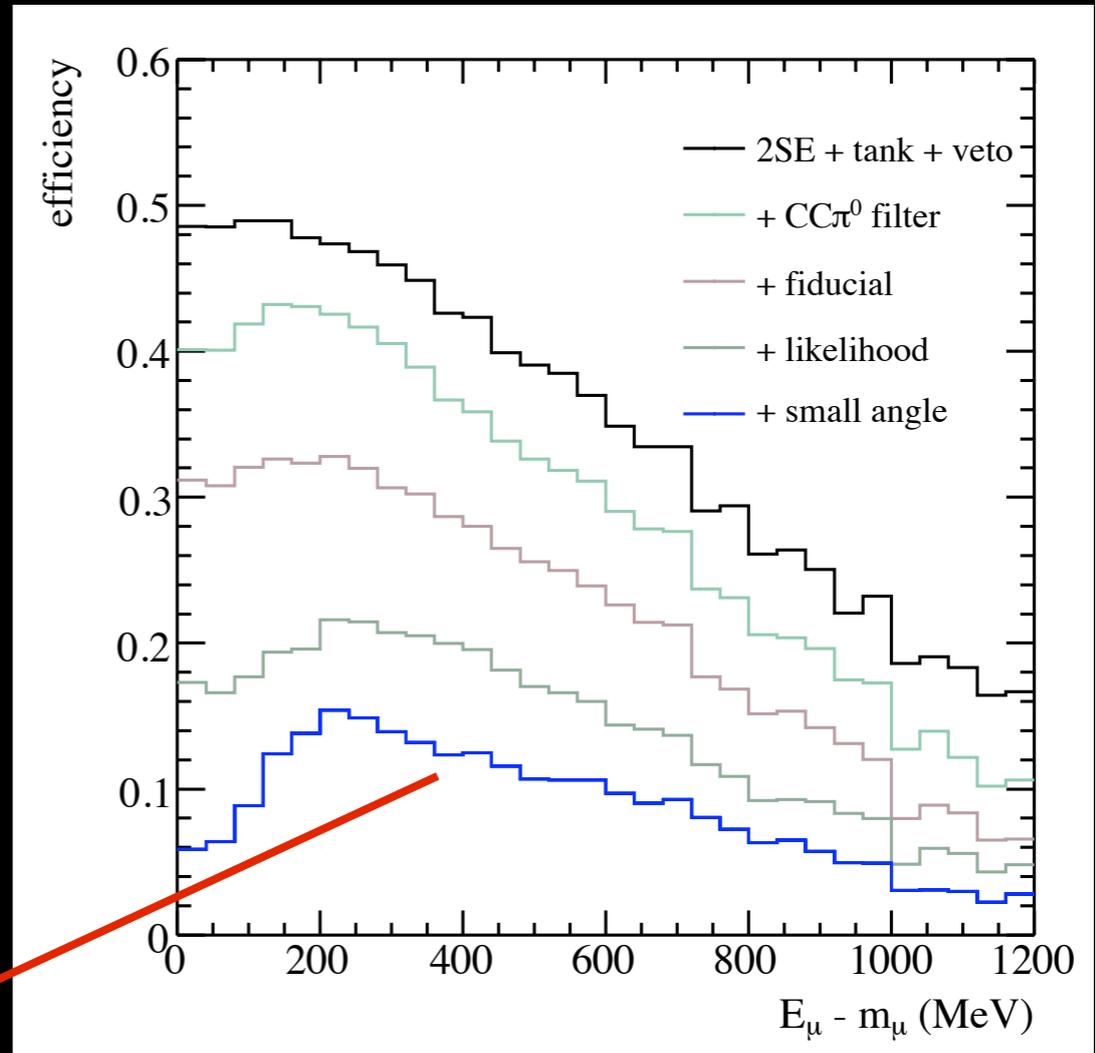
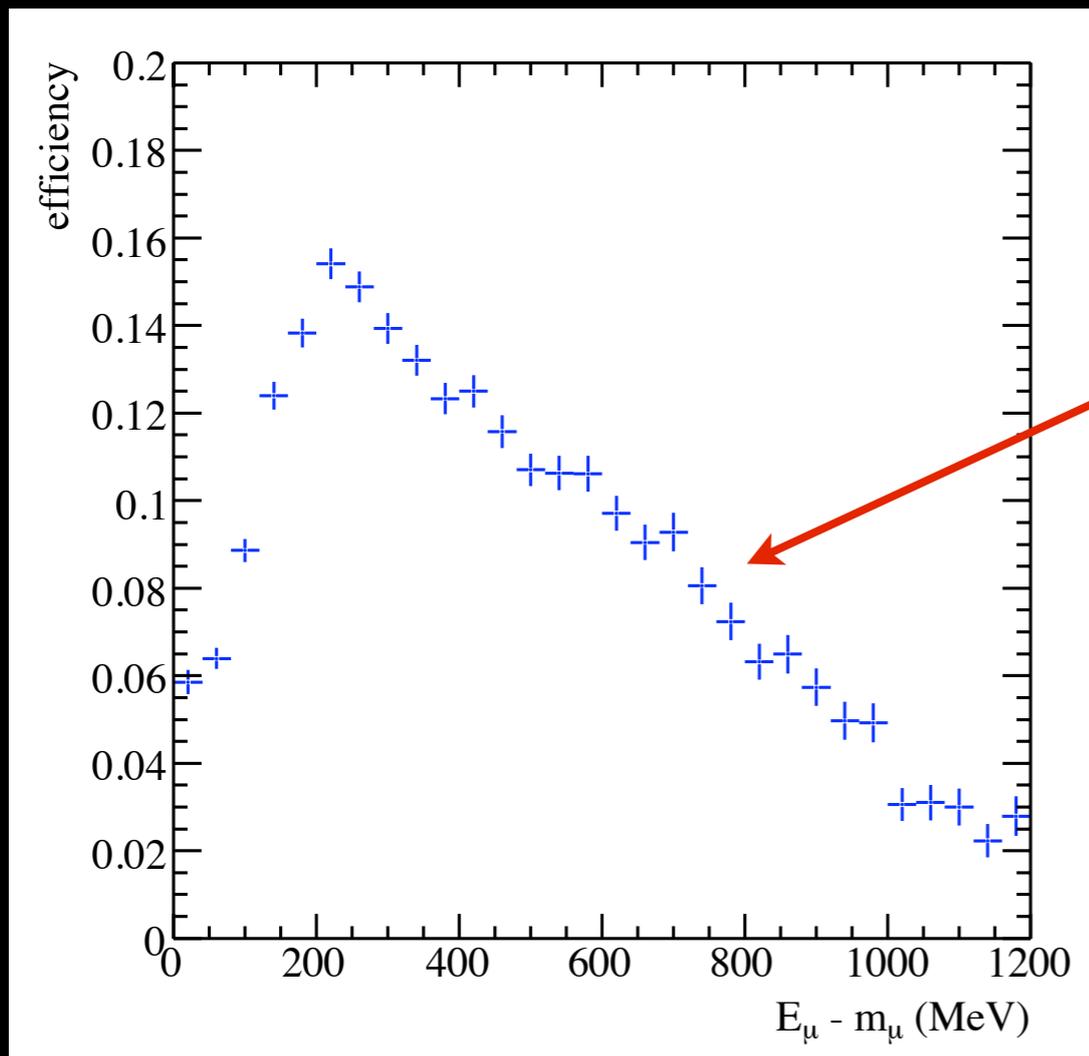


CC π^0 update

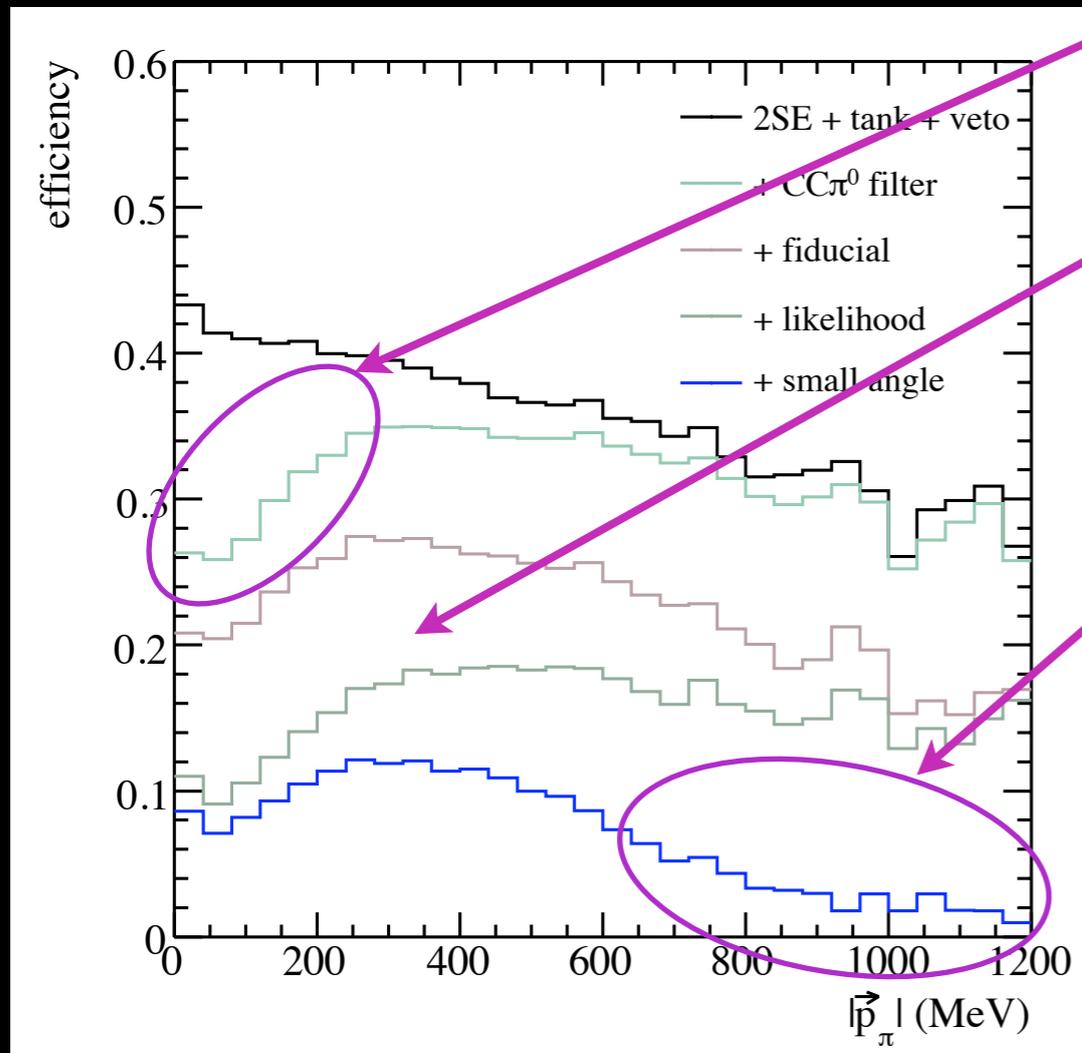
Robert Nelson
2009.8.20

Muon Efficiency

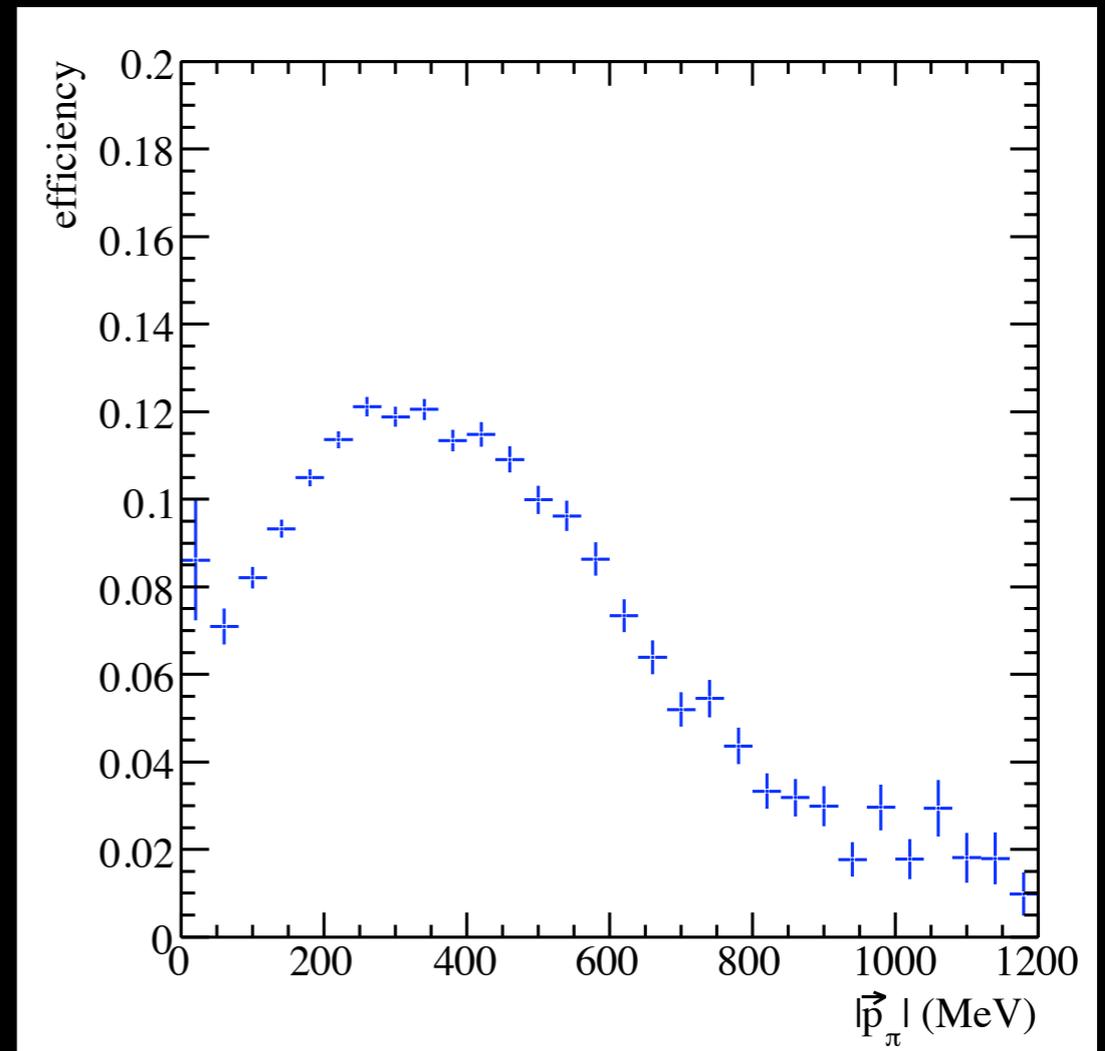


- Behaves roughly as expected.
- Errors are correctly correlated; oddly they barely changed from last week.

Pion Efficiency

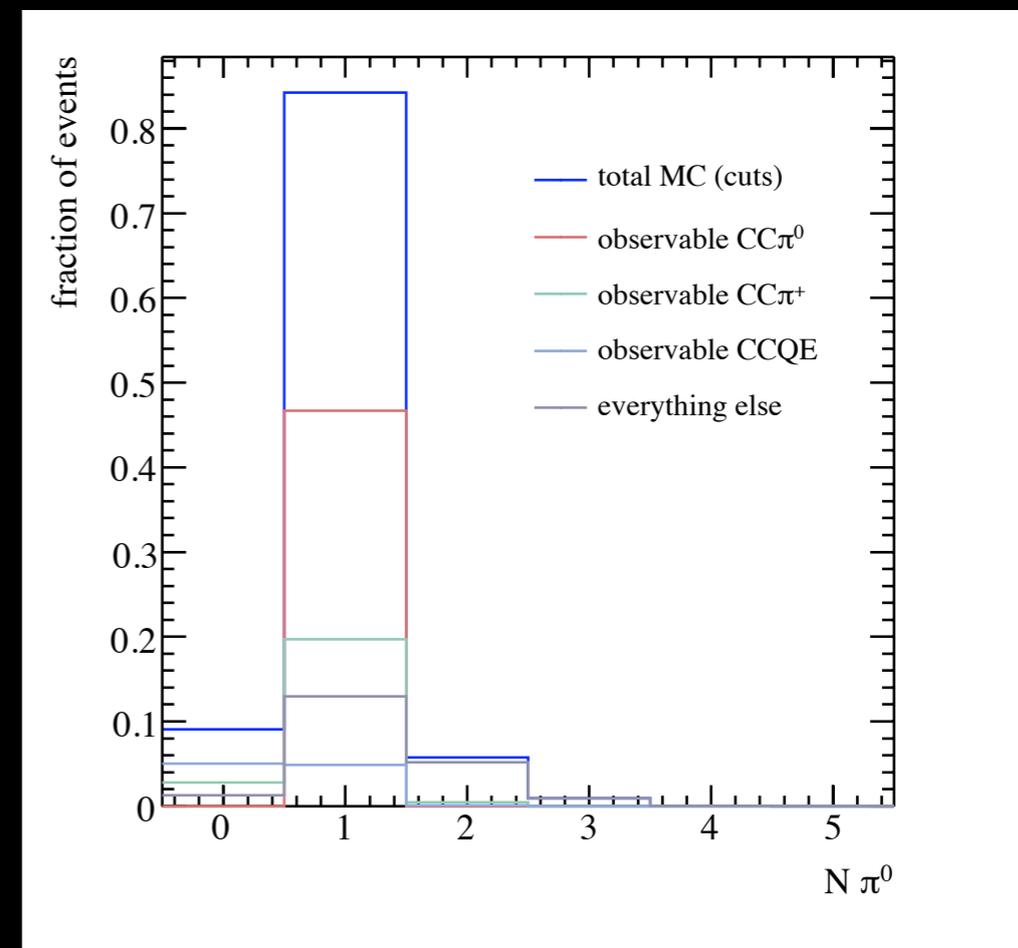
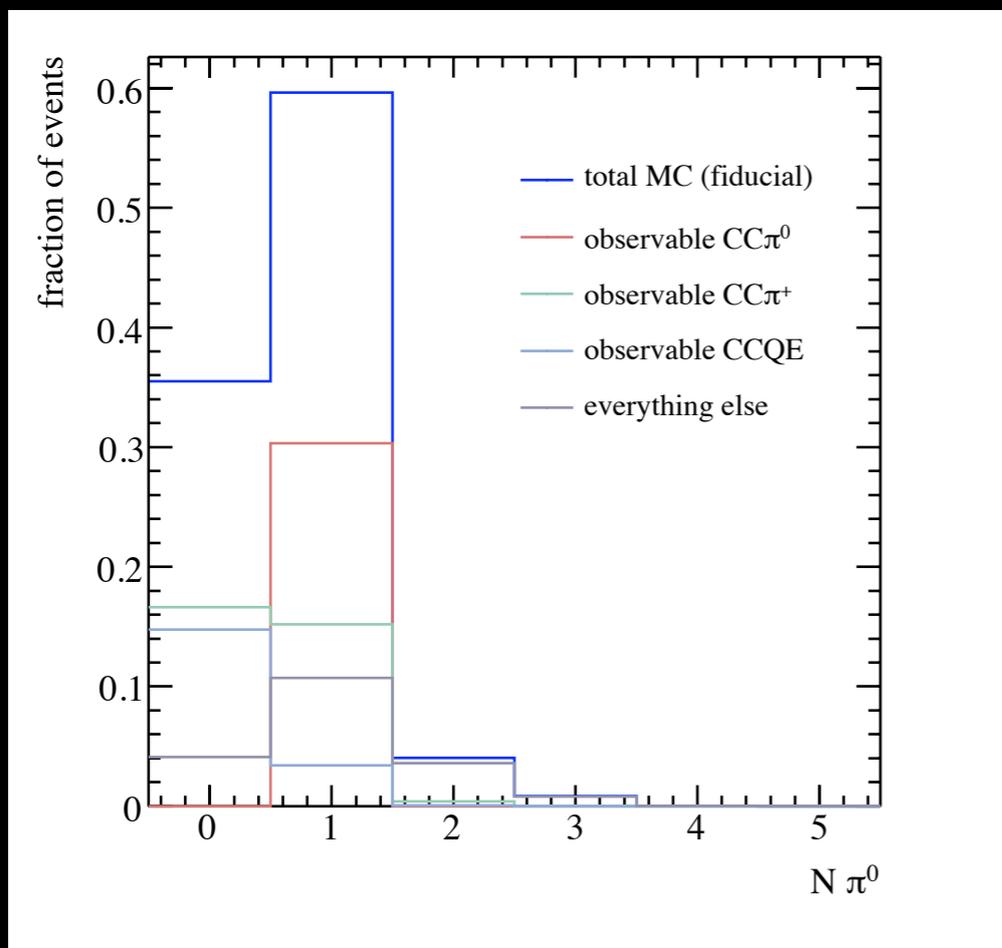


- High energy events are not as drastically cut by the veto hits cut.
- $CC\pi^0$ filter cuts low energy π^0 .
- Likelihood cuts low energy as well but not as drastically.
- High energy are cut by the small angle cut.



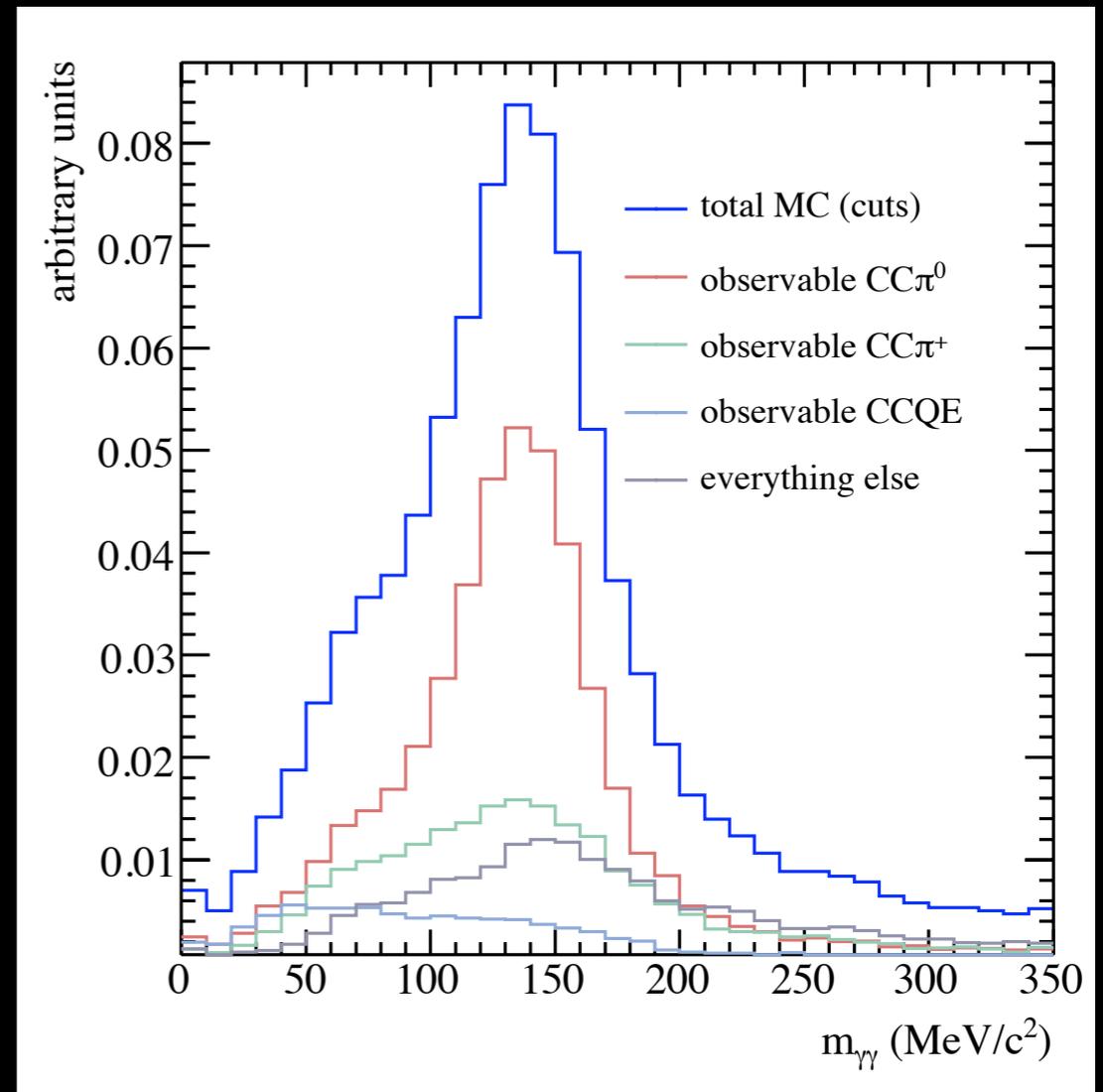
π from observable modes

- **Observable $CC\pi^0$:** Are events with one μ^+ or μ^- and one and only one π^0 that came from the nucleus and no other mesons (consistent with the $NCC\pi^0$ analysis definition).
- **Observable $CC\pi^+$:** Are events with a π^+ and a μ^- from the event vertex and no other mesons (mostly consistent with the $CC\pi^+$ analysis definition).
- **Observable $CCQE$:** Are events with a μ^+ or μ^- and no mesons (might be consistent with the $CCQE$ analysis?).



Pion mass

- By using the $CC\pi^+$ measurement from Mike, the error on the charge-exchange model will be isolated.
- We could probably use Teppei's measurement for the $CCQE$.
- Everything else is what worries me.



What is everything else?

- 30% are NC events.
- Should we try and reweight the $\text{NC}\pi^0$?
- CCmulti- π perhaps we can try to somehow constrain those a bit better.

