

# Number of events finished?

Check out git!

[https://git.km3net.de/tvaneeden/event\\_rates](https://git.km3net.de/tvaneeden/event_rates)

Anything left to do???

# Plots for Suzan & Ariane

# Aaaaalmooost finished! *I promise Aart! 😊*

Jobs currently @lyon for all available MC files (200 per situation)

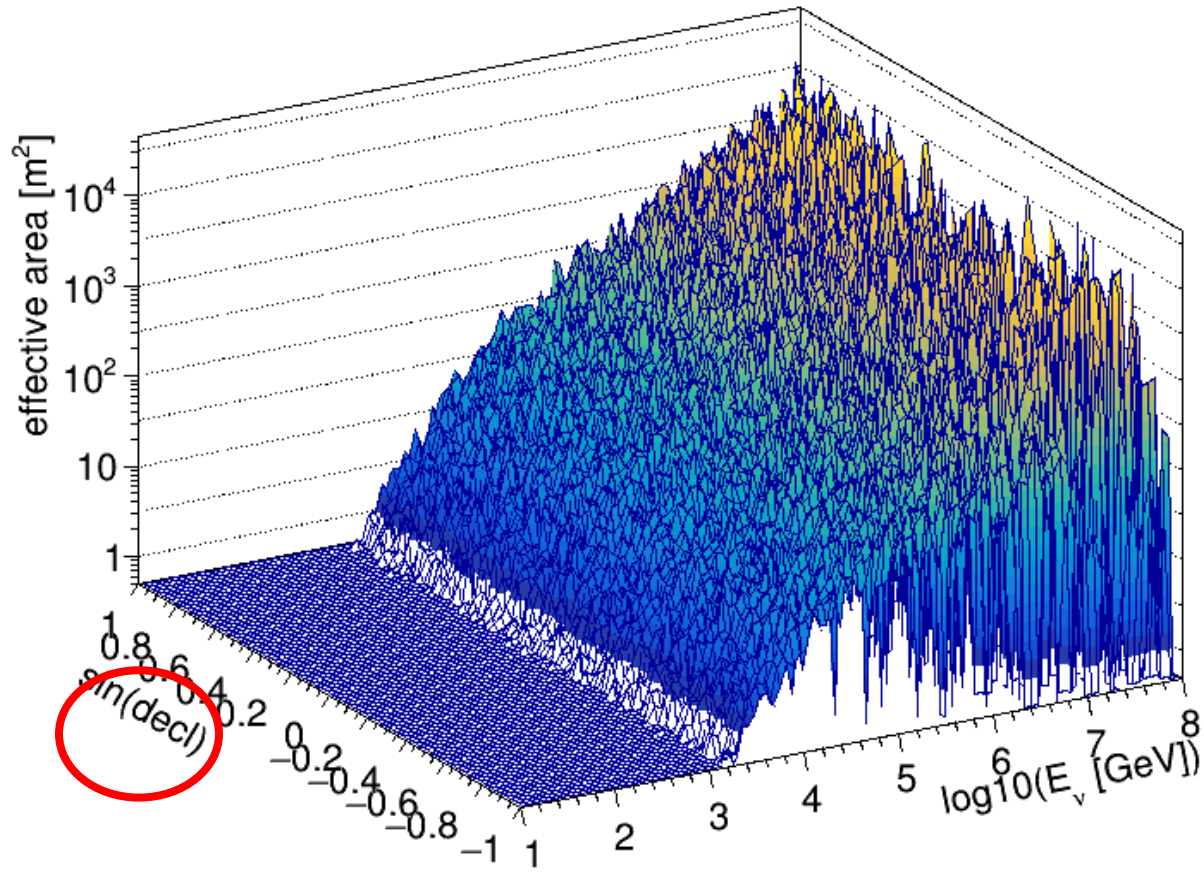
These plots with 11 files per situation

**Q:** How to suppress plotting on screen?

I did qsub, but there are commands in script like

TCanvas.Draw()... will this fail?

# Effective area numuCC, all directions



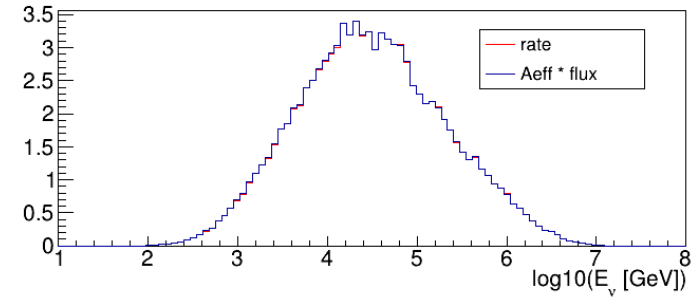
**Q:** Make them for different cuts?

This is just trigger level + requirement that best\_reco\_trk must exist

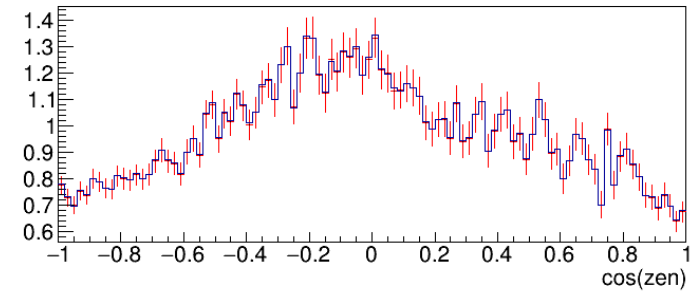
=> what else is 'normal'/preferred for analysis?

## Rates confirmed

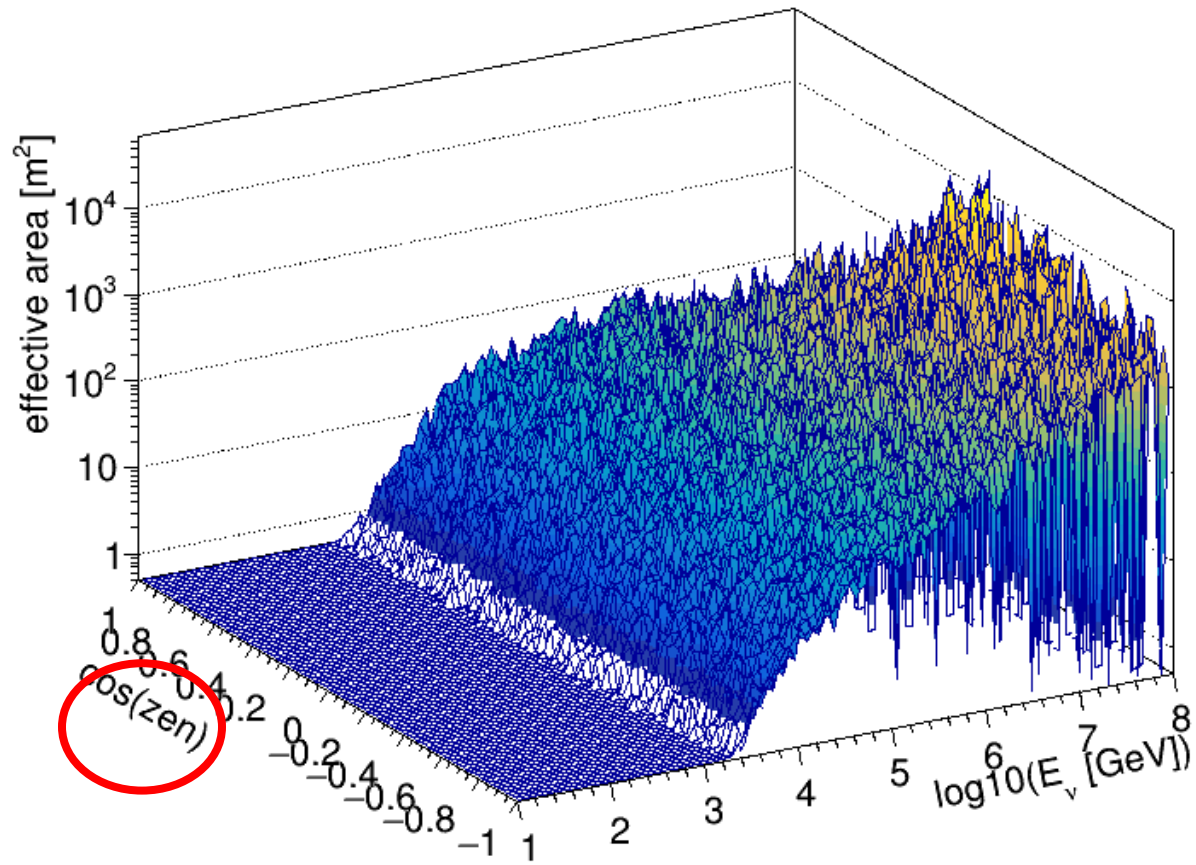
Rate cosmic neutrinos numuCC, all directions



Rate cosmic neutrinos numuCC, all directions



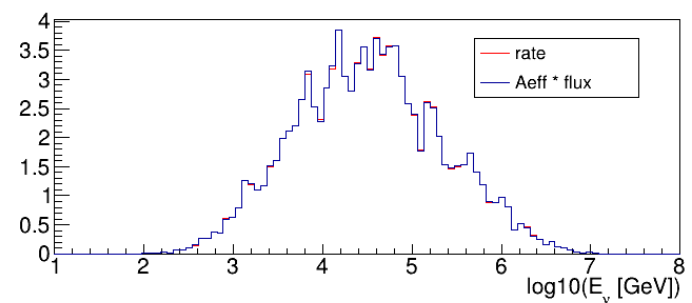
# Effective area numuCC, all directions



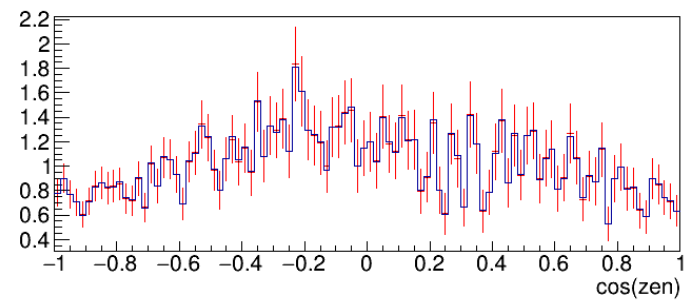
**Note:** rates of 2 methods confirmed. All numbers of all plots not yet checked with tables, but the ones that I checked are oké!

## Rates confirmed

Rate cosmic neutrinos numuCC, all directions

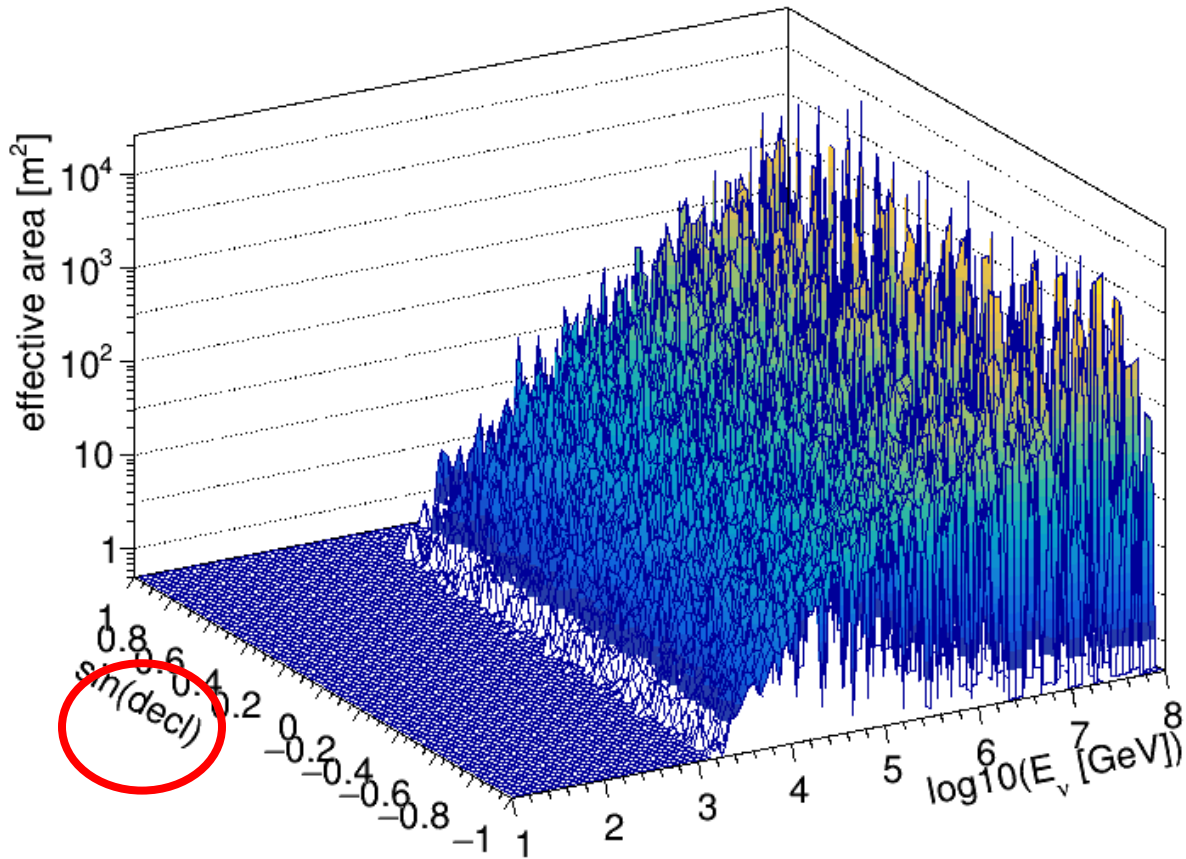


Rate cosmic neutrinos numuCC, all directions



**Note:** I still want to confirm what the deviation is when applying function to this histogram to get  $\sin(\text{decl})$

# Effective area numuCC, upgoing

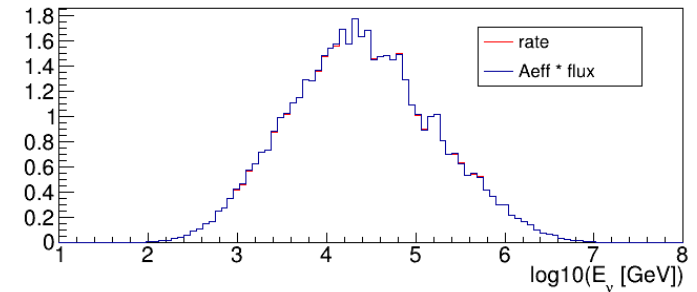


**Note:** I still want to confirm what the deviation is when applying function to this histogram to get  $\sin(\text{decl})$

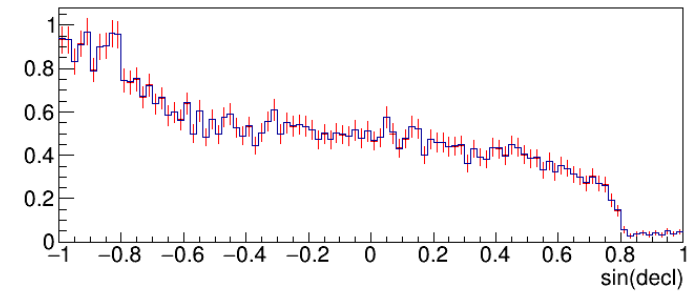
**Note:** upgoing rates approx  $\frac{1}{2}$  of all going

## Rates confirmed

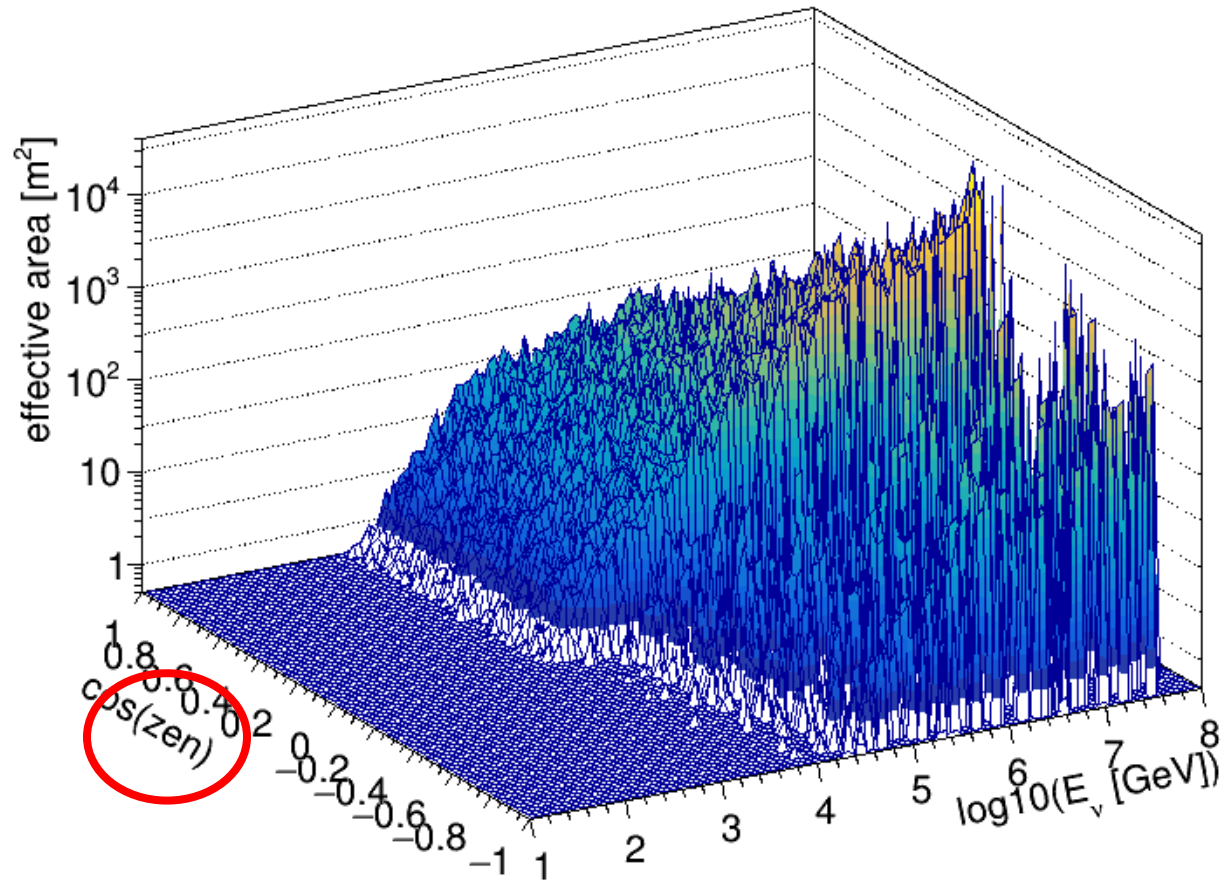
Rate cosmic neutrinos numuCC, upgoing



Rate cosmic neutrinos numuCC, upgoing

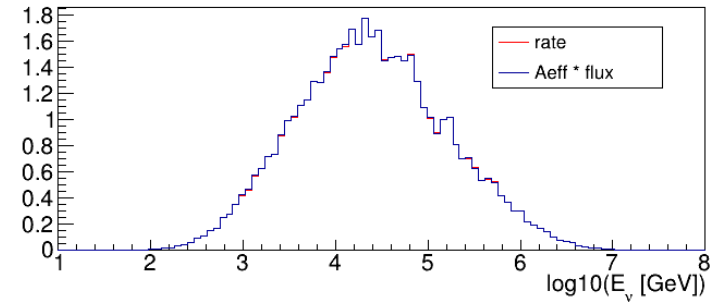


# Effective area numuCC, upgoing

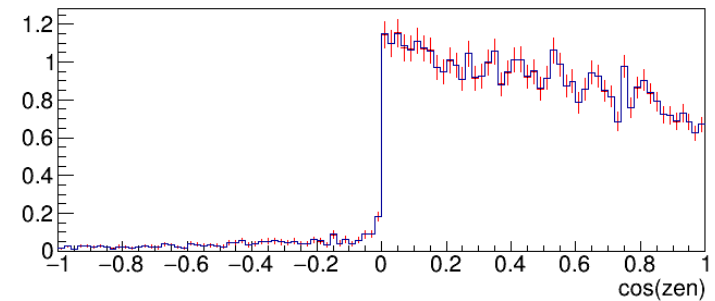


## Rates confirmed

Rate cosmic neutrinos numuCC, upgoing



Rate cosmic neutrinos numuCC, upgoing



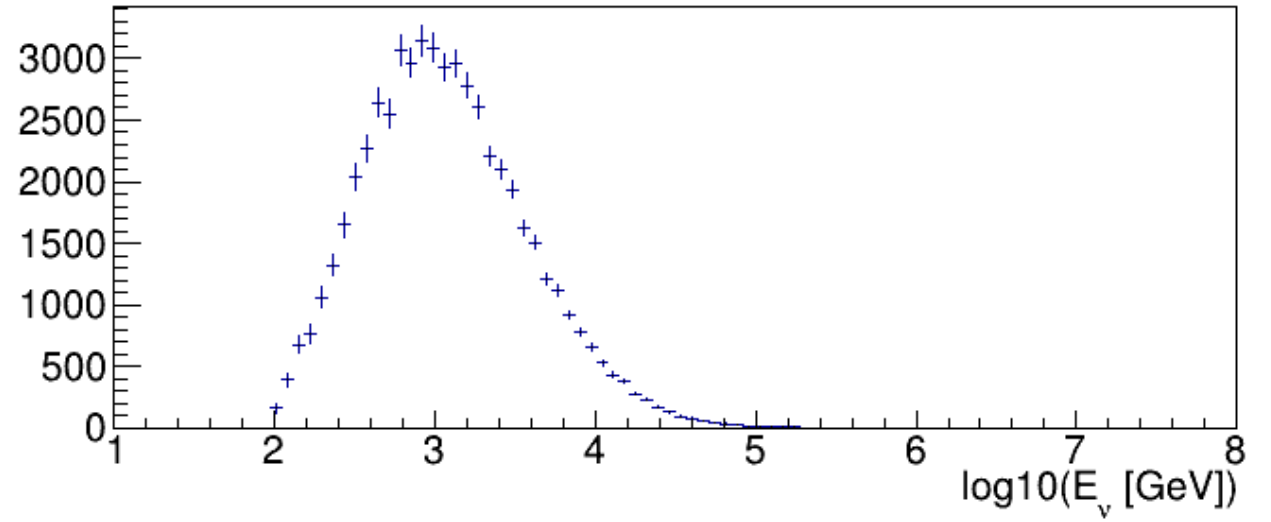
**Q:** Why do we cut on best\_reco\_track.dir, but plot Nu.dir??

```
# CUT: the reco track must be reconstructed as up-going (-> skip all down-going)
if direction == "up" and best_trk.dir.z < 0.:
    continue
```

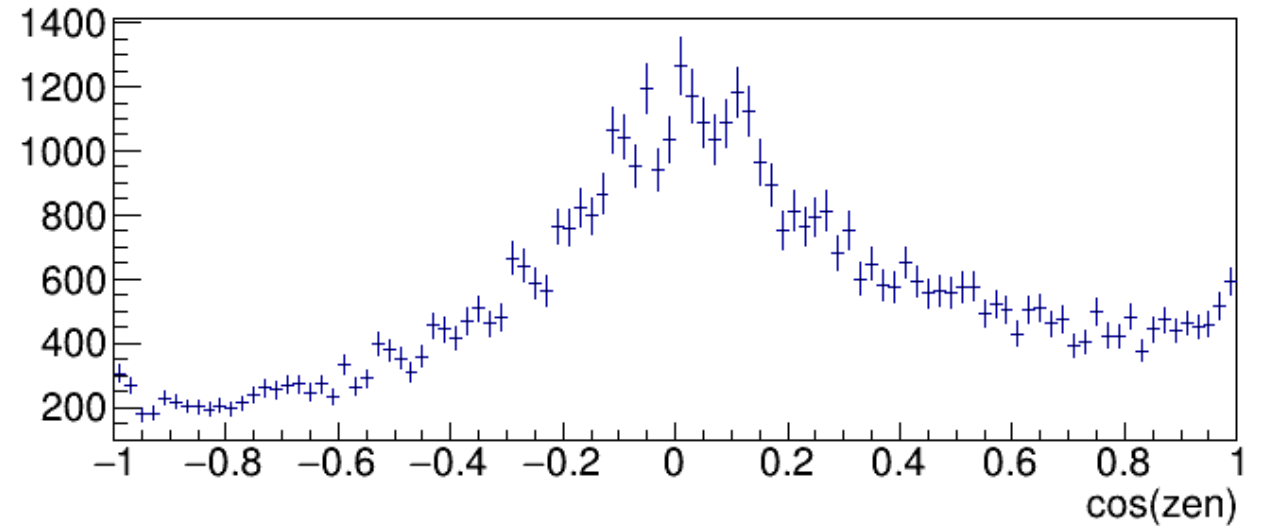
# Questions: best\_reco\_trk.dir ↔ Nu.dir

- When do you look from point of view of detector?  
→ best\_reco\_trk.dir
- When do you look from point of view source?  
→ Nu.dir
- Is this a choice, or are there defaults?  
(for example: flux misunderstanding...)
  - EffArea: Nu
  - AngRes: Nu
  - Atm nu: Nu/brt?

Rate atmospheric neutrinos numuCC, all directions



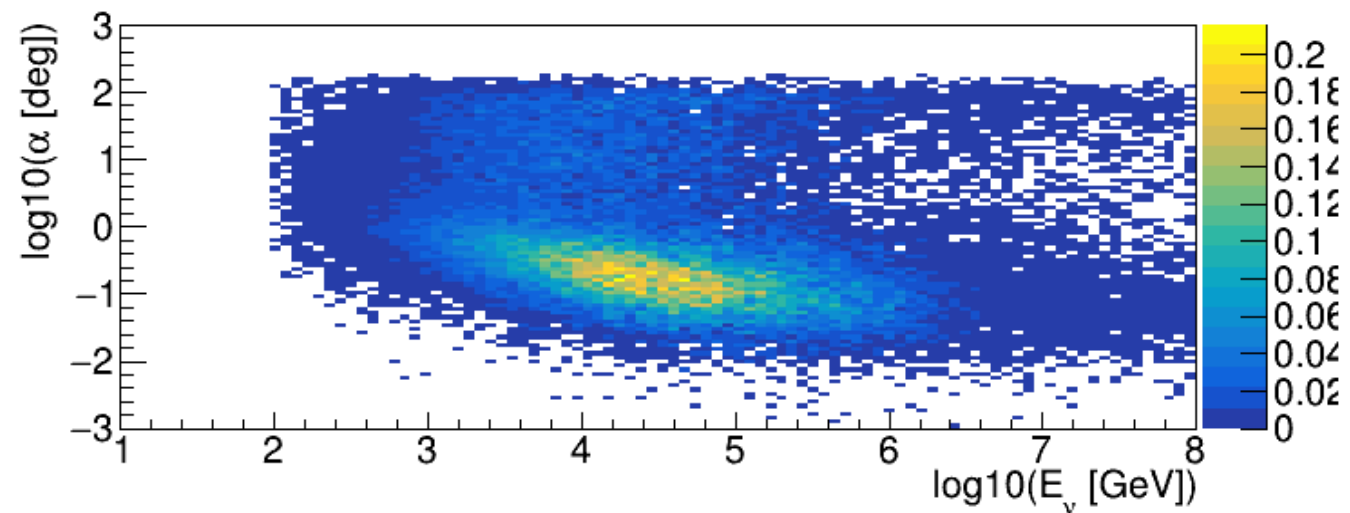
Rate atmospheric neutrinos numuCC, all directions



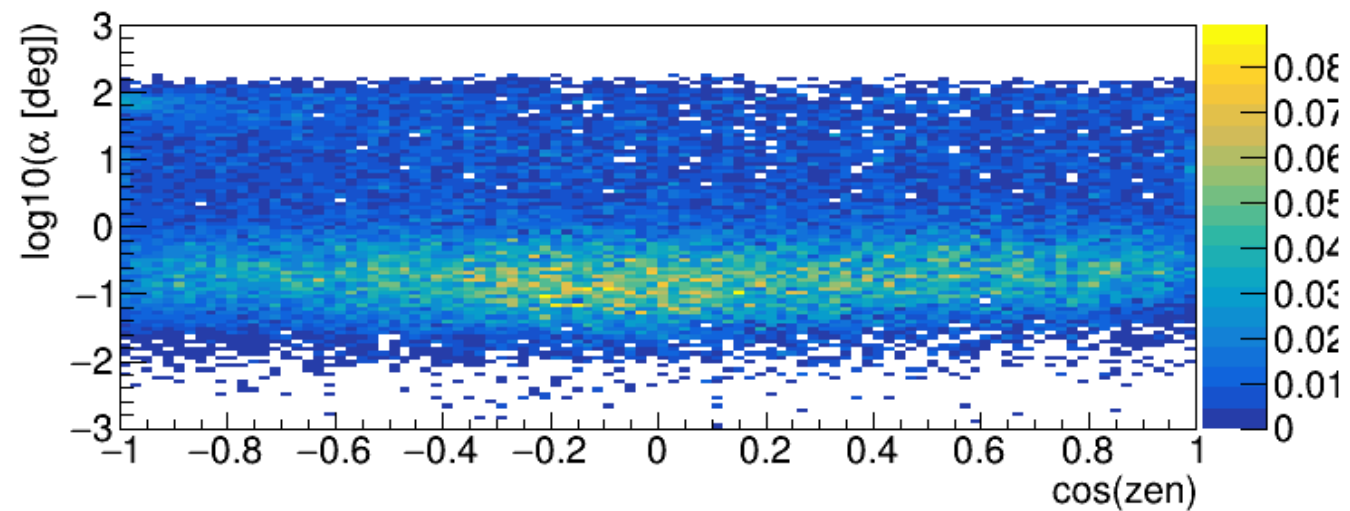
**Think:** Most atmospheric neutrinos horizontally????



Angular resolution numuCC, all directions zx projection



Angular resolution numuCC, all directions zy projection



**Q:** Fighting with colorbar & margins didn't succeed.  
Any suggestions?

I made my code pritty: aligned & commented

TH3/4H for Likelihood framework

- As soon as I have answers to my last questions, I can make this very easily from the script I currently have.