

# Updates on activities.

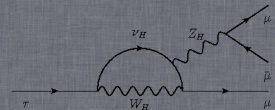
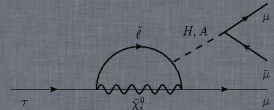
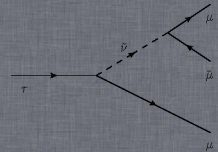
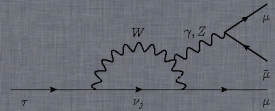
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10<sup>th</sup> July 2013



University of Zurich<sup>UZH</sup>

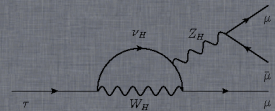
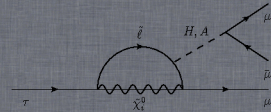
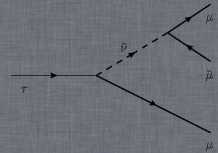
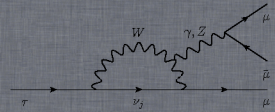


MC Signal

Cutting out trigger decisions

Trash

TMVA



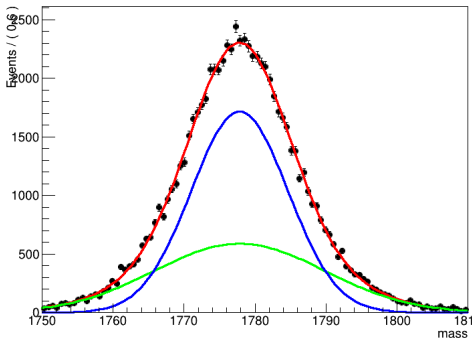
# MC Signal

Ntuples are ready. I send link yesterday.

First look at the resolution.

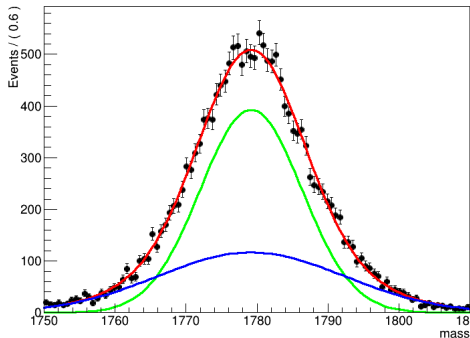
2012

A RooPlot of "mass"



2011

A RooPlot of "mass"

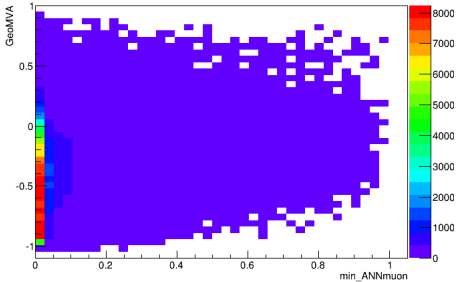


Parameters in errors!. We don't gain with new reco.

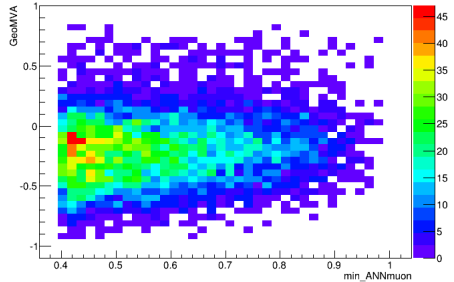
# Topo2BodyBBDTDec

## Topo2BodyBBDTDec

Before Cut



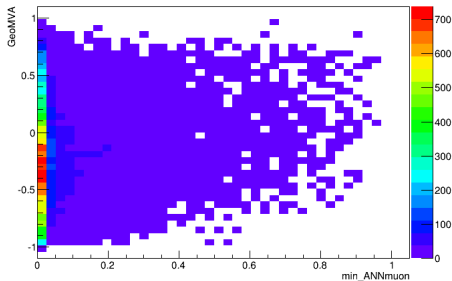
After Cut



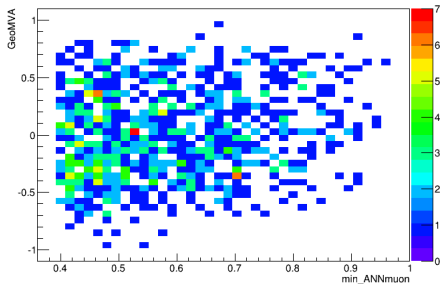
98% efficient. After we get ride of the trash bins.

# CharmHadD2HHHWide

CharmHadD2HHHWide  
Before Cut



After cut



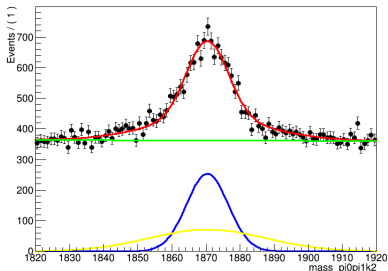
97% efficient. After we get ride of the trash bins.

# PIDNN

A question was raised by Marta, if we will need to fine tune the trash bin to get ride of  $D \rightarrow K\pi\pi$ .

- Let's start from current trash bin.

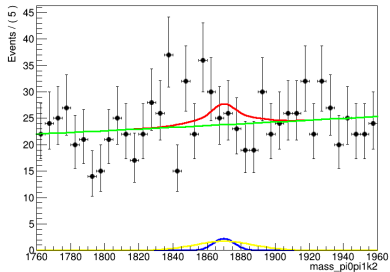
A RooPlot of "mass\_pi0pi1k2"



- We clearly see the peak.
- Let's fix now the shape of  $D$  (errors are small so no big deal).
- We will cut slices of PIDNN and look for similar peak.

# PIDNN

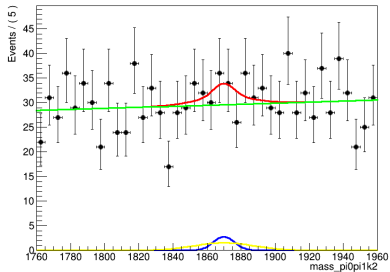
A RooPlot of "mass\_pi0pi1k2"



- $0.5\sigma$  effect.
- PIDNN (0.45; 0.5)

# PIDNN

A RooPlot of "mass\_pi0pi1k2"

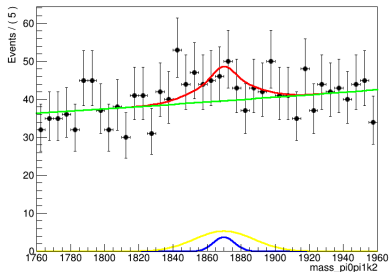


- $0.8\sigma$  effect.
- PIDNN (0.4; 0.45)



## Maybe we can make trash smaller?

A RooPlot of "mass\_pi0pi1k2"



- $1.7\sigma$  effect.
- PIDNN (0.35; 0.40)

# Conclusions about the trash

- Looks like the trash can't be made smaller.
- Binning turn out already optimum as it should!
- Part of  $D^+ \rightarrow K\pi\pi$  was used for optimisation in the first place.

Since MC is still running. Let's train on data.

