

中国科学院高能物理研究所  
*Institute of High Energy Physics*  
*Chinese Academy of Sciences*



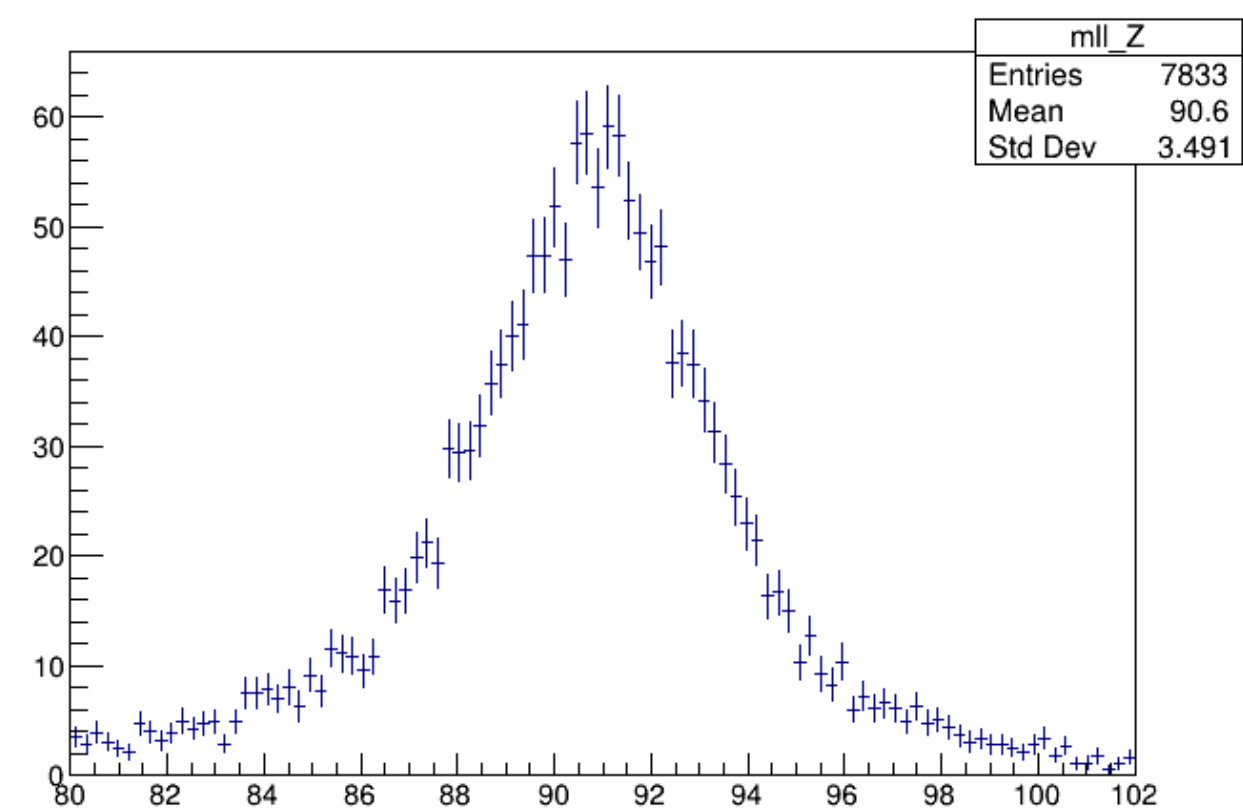
# Z cross section measurement with Ai method

Mingxu He



# Status

- Latest MM ntuples: v29 (1.4 TB)
  - Successfully downloaded to DESY server
- Test scanning with 10k events locally
  - Adapted from config\_chain\_13TeV\_fullRun2\_v20\_v26\_MM.cfg in craig\_aidy\_CC branch
  - Run though the truth scanning and reco scanning
- Trying to submit full Run 2 jobs



===Weights===		
Cut	& Z	& nonFid \\\
\hline		
Initial	& 1974.1578590728	& 10.180173978806 \\\
RecoWeights	& 1892.650377678	& 9.4186267467806 \\\
Dilepton	& 1891.7052157611	& 9.4168517156551 \\\
DQ	& 1891.7052157611	& 9.4168517156551 \\\
MassWindow	& 1891.7052157611	& 9.4168517156551 \\\
LeptonPtEta	& 1740.1215523623	& 7.8678509962625 \\\
LeptonID	& 1709.5115071811	& 7.2285219236999 \\\
OS	& 1709.5115071811	& 7.2285219236999 \\\
TruthMatching	& 1708.81223448	& 7.2285219236999 \\\

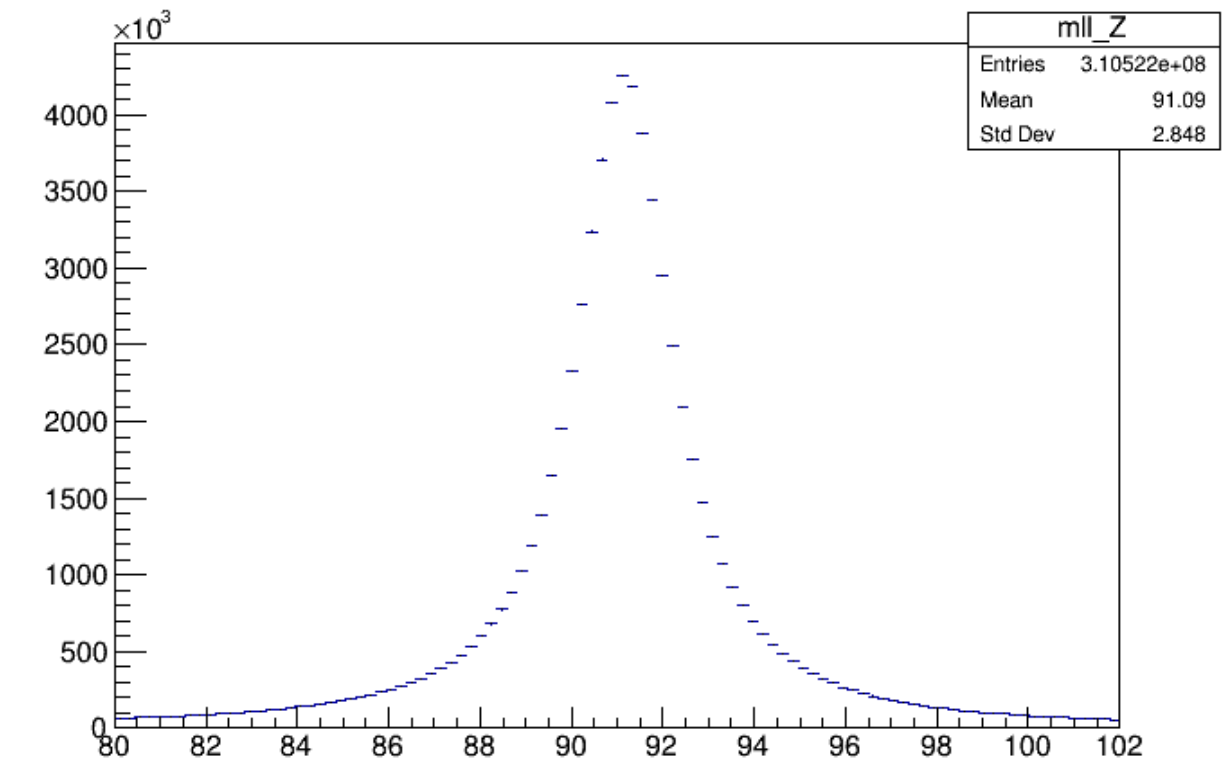
# MM scan of MC16e and data18

## ● Truth scans are all done

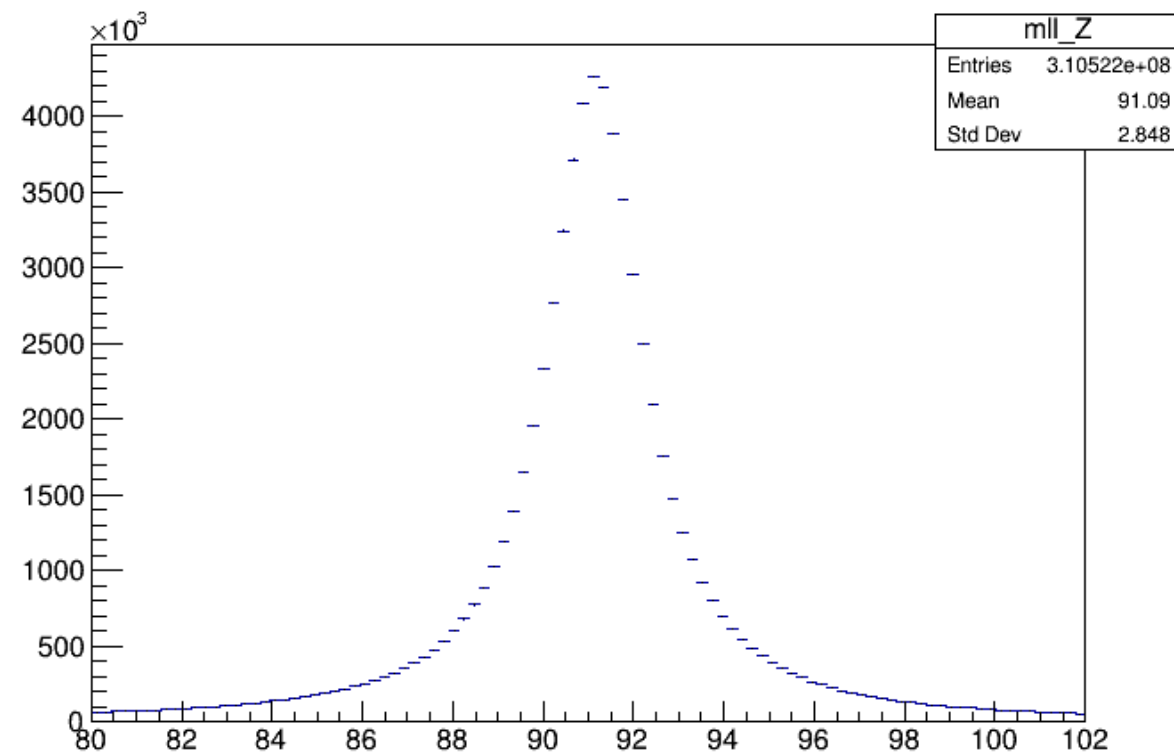
- Nominal and PDF variation histograms look good

## ● Reco scans

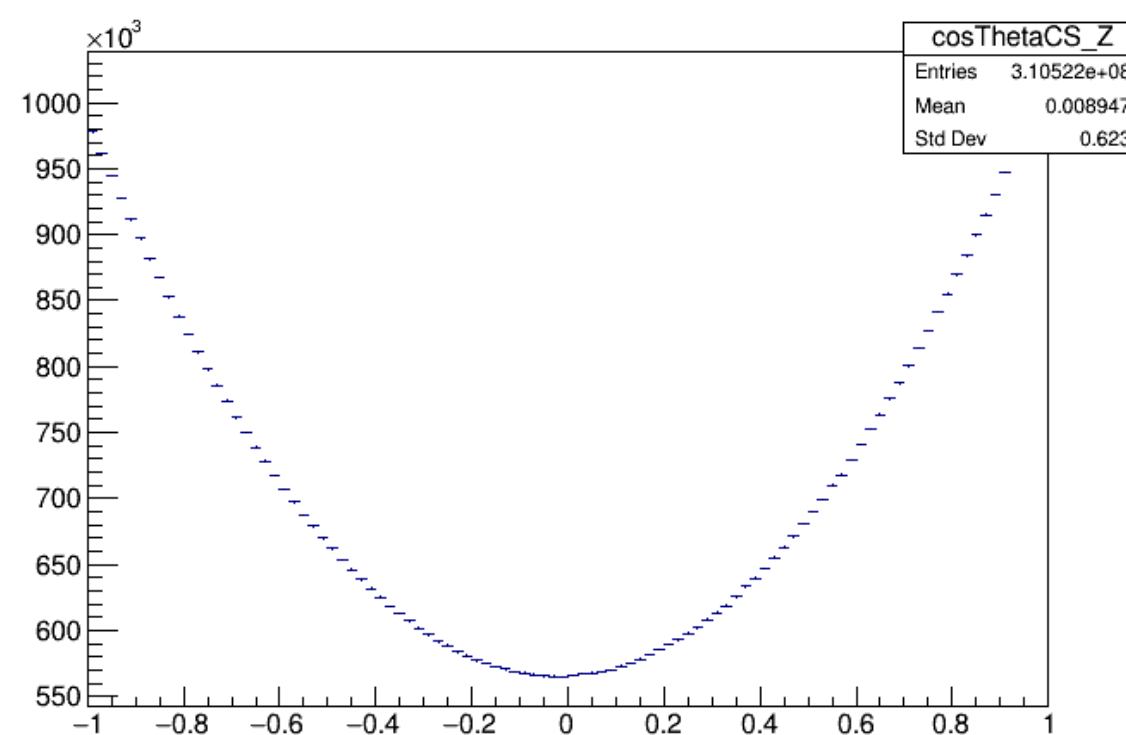
- 128 jobs, finished



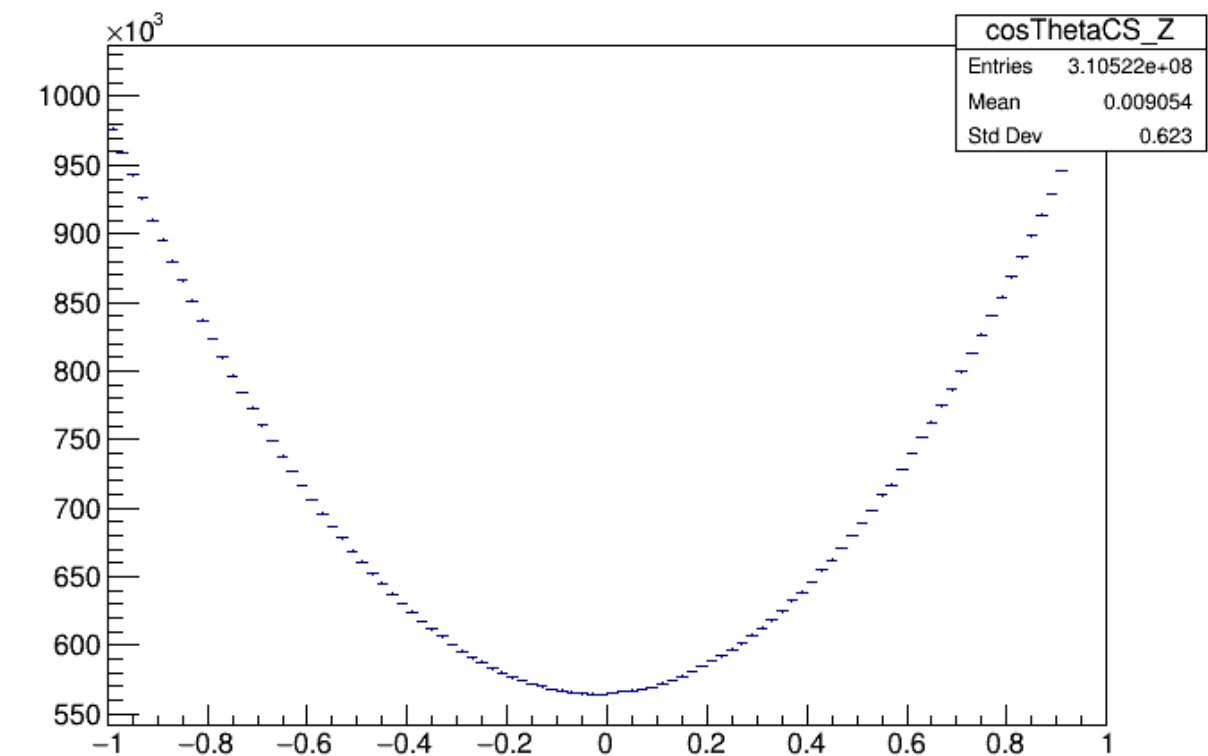
Nominal



Nominal



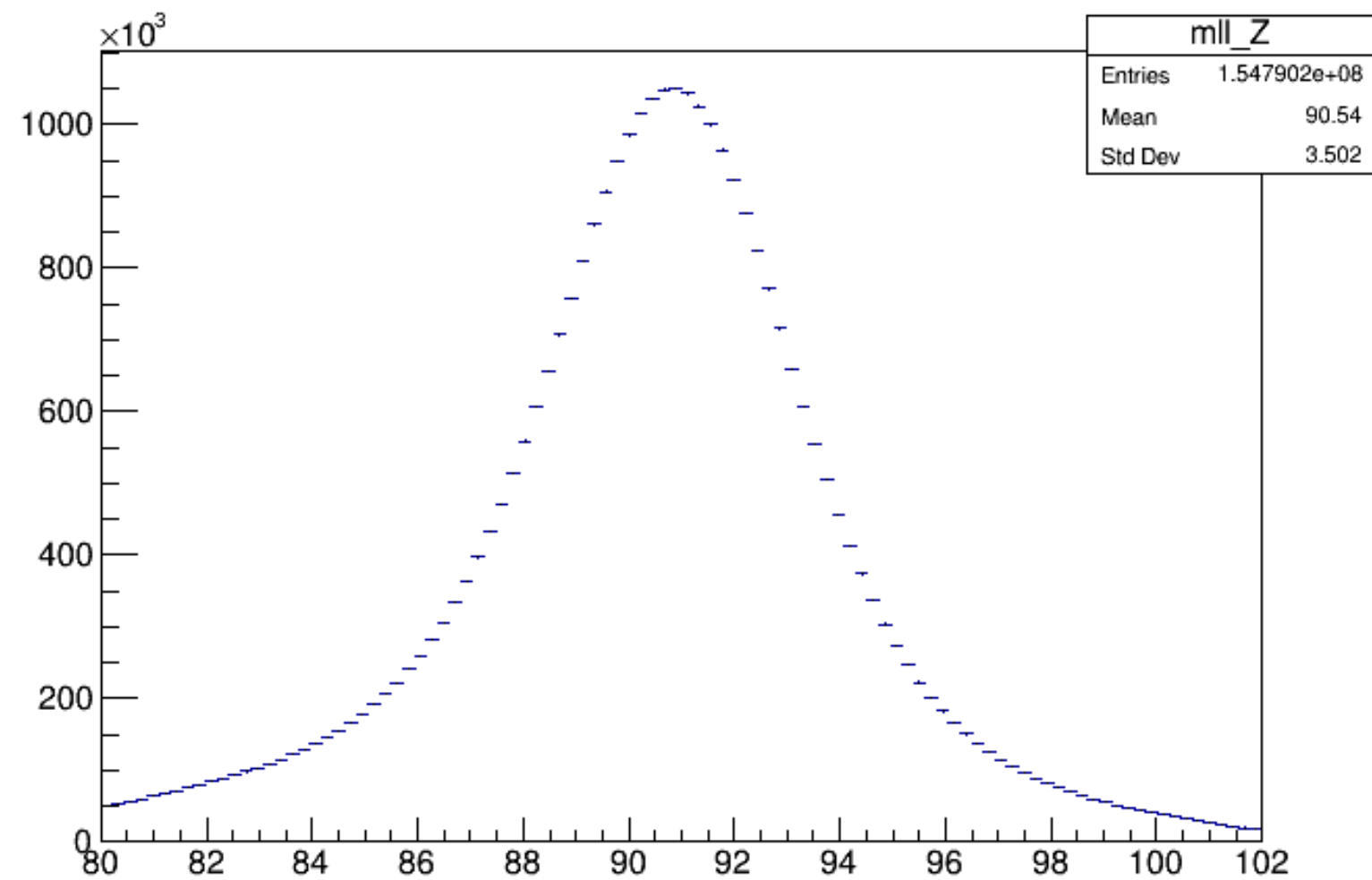
PDF8Lo



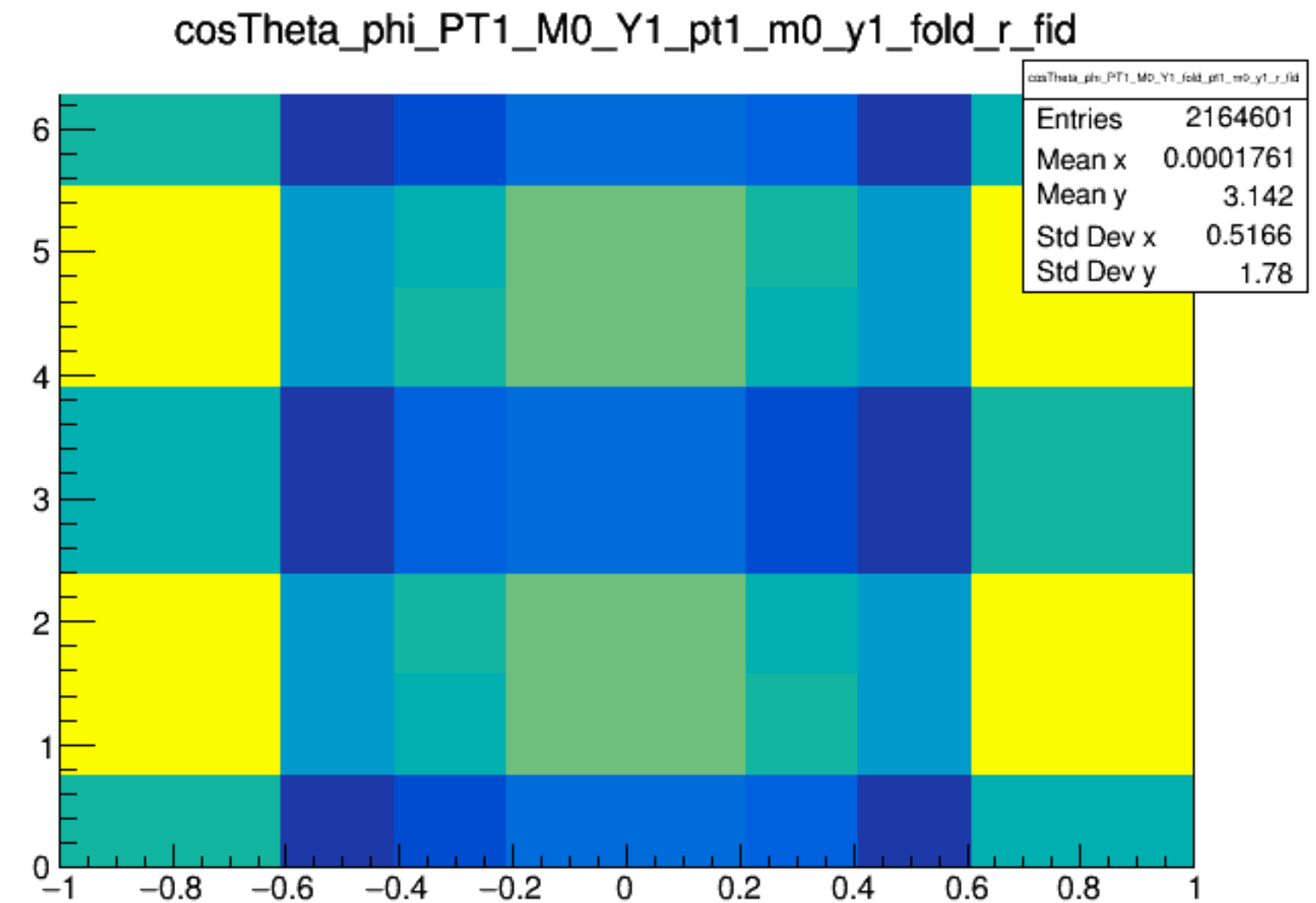
# MM scan of MC16e and data18

● Scan jobs are done

Reco signal nominal



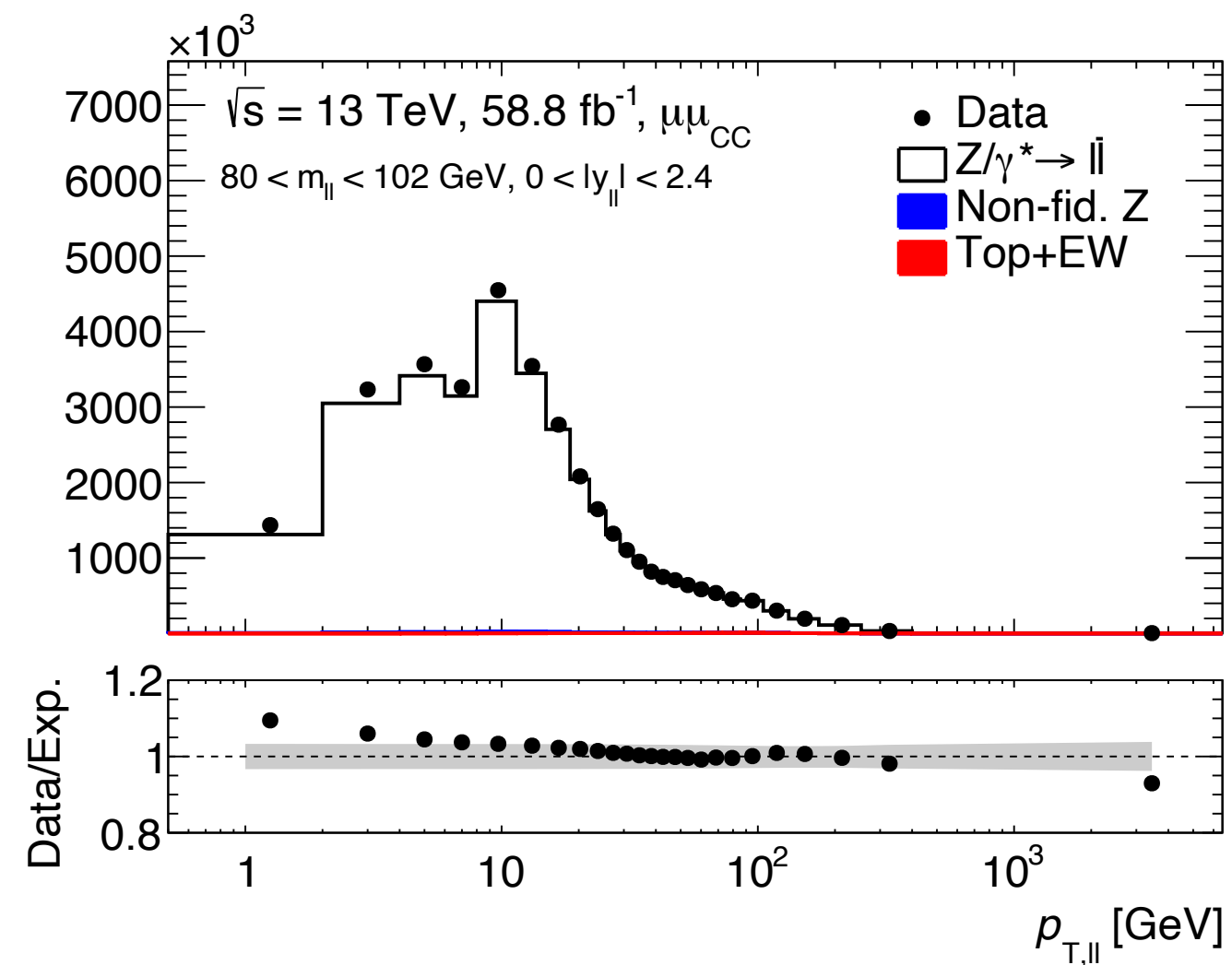
Reco signal nominal



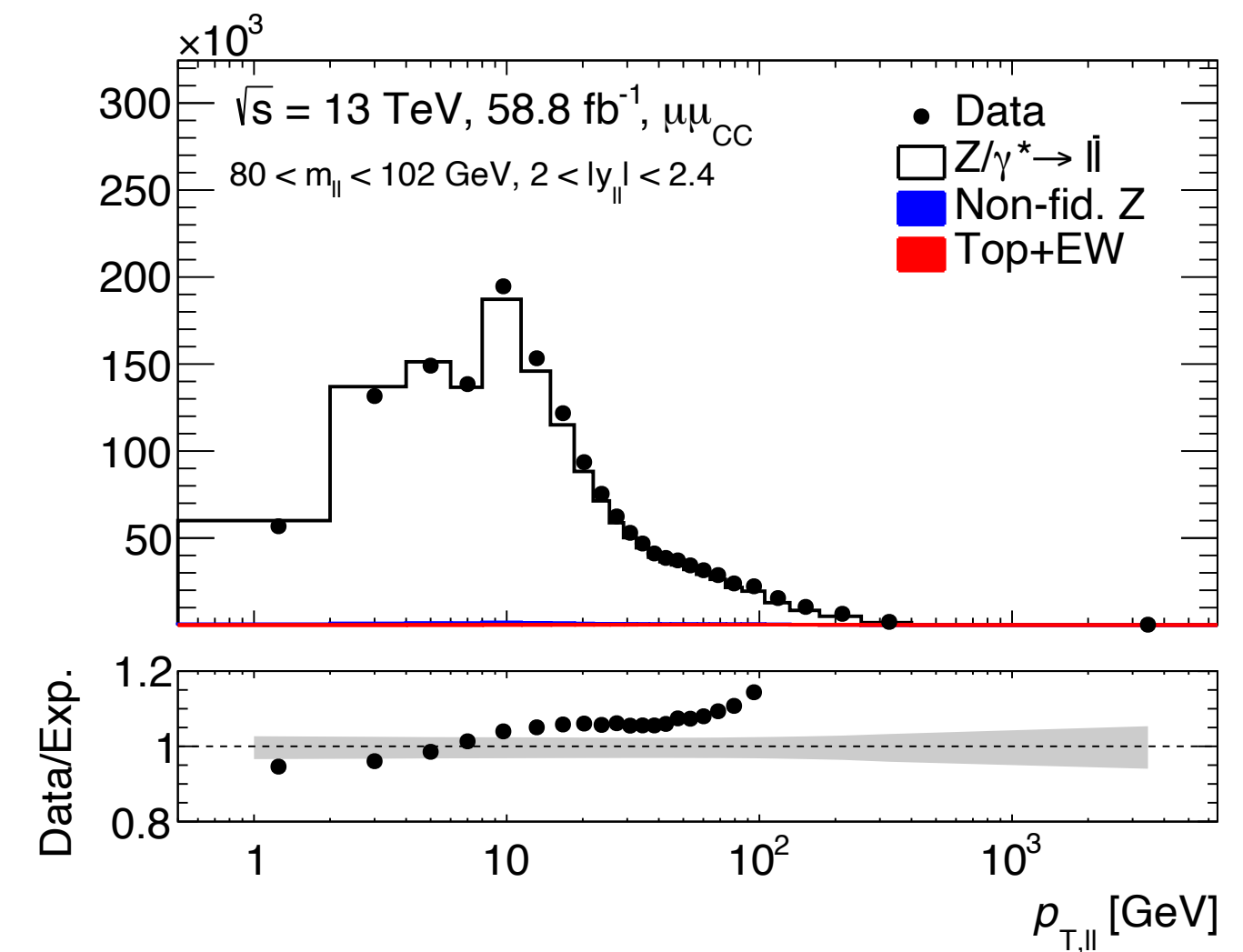
# Control plots of MM v29

Most of the plots looks good, expect the last  $|y|$  bins in high  $p_{T,\parallel}$  region

Inclusive



Last  $|y|$  bin



# MM results of MC16e and data18

- **Workspace generation: done**
- **Fit the combined MM workspace**
  - Observed dataset: running smoothly
  - Asimov dataset: need more investigation

