

NMSU Update

Dinupa

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- Abi and Forhad has already reconstructed the data from run 2 and 3. This is done with RS67.
- Each reco. file contains 2 trees. For example,
TFile** merged_RS67_3089LH2.root
TFile* merged_RS67_3089LH2.root
KEY: TTree result;1 The tree for final results
KEY: TTree result_mix;1 The tree for final results

Mix tree contain the mixed events produced by NMSU method.

- We can get the raw DY signal by subtracting the mixed events from the raw events.
- For LH2 target with out any cuts, we have;
16517271 raw events
7945229 mix events

- We use the standard "Chuck cuts" for event selection.

```
chuckCutsPositive_2111v42_tmp  
chuckCutsNegative_2111v42_tmp  
physicsCuts_noMassCut_2111v42_tmp  
chuckCutsDimuon_2111v42_tmp  
tempOcc
```

Note that the last cut (and beam intensity optimization with D1 occupancy cut) is not yet implemented in this study.

- After subtracting the flask events;

```
16521 raw events  
11186 DY events
```

- These cuts (except for mass and D1 occupancy) are already applied in Kei's MC study.

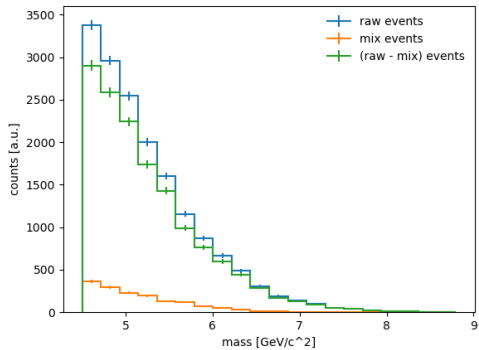


Figure 1: mass distribution.

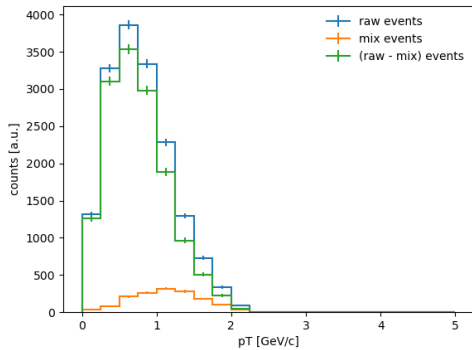


Figure 2: pT distribution.

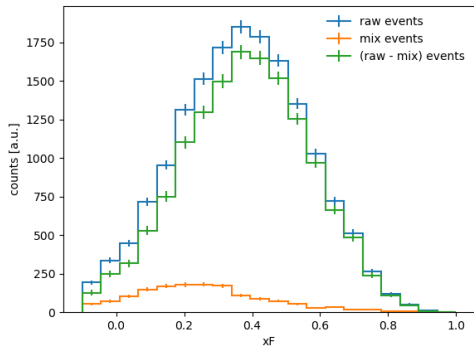


Figure 3: x_F distribution.

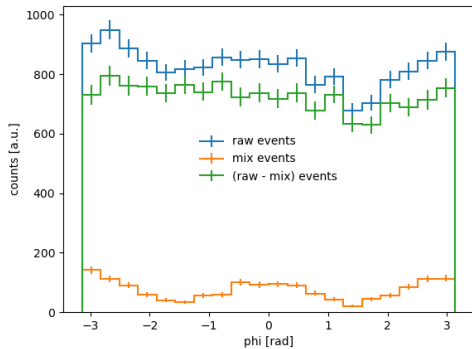


Figure 4: ϕ distribution.

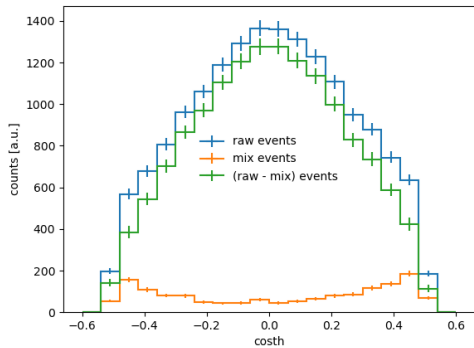


Figure 5: mass distribution.

- Next step is to do the binning and use the histograms in NN.
- Creating a singularity image is still in progress. Found a memory issue. Need more investigation.
- Need to cross check the cuts with Kei.