Weekly Report

FANGYI GUO

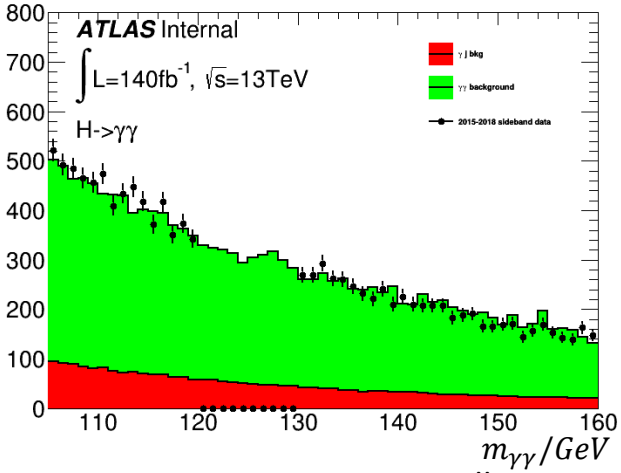
Data-MC comparison

Data: full Run2, 140 ifb.

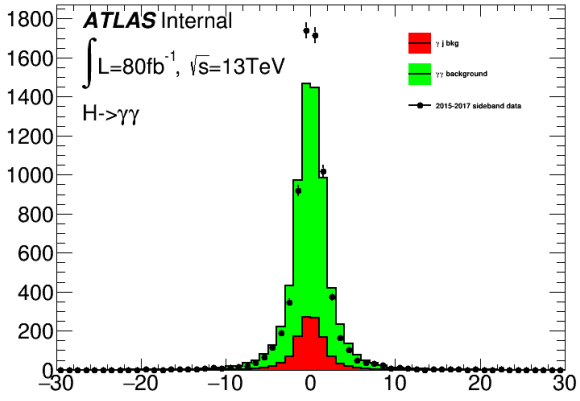
$\gamma\gamma$ continue background: mc15_13TeV Sherpa, $m_{\gamma\gamma} \in [105, 160]$GeV

Fake background($\gamma j + jj$): data-driven from reverse ID & Isolation

Fraction: calculated with Purity2x2DSB. 3 values for mc16a/d/e, but inclusive for different mu or pT etc.

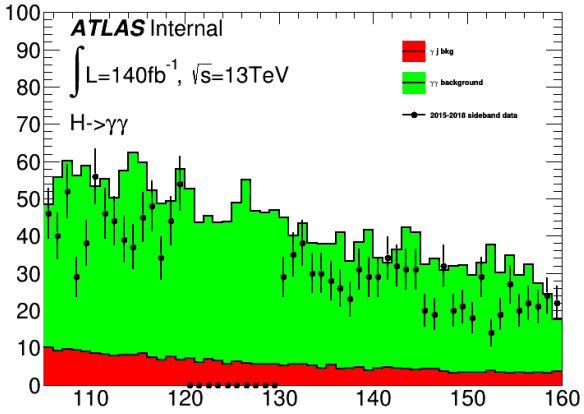


Data-MC comparison in $m_{\gamma\gamma}$ in all OO range.

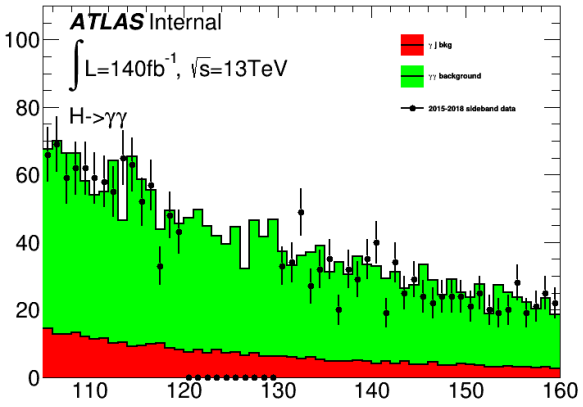


Old(80ifb) OO distribution for data/MC

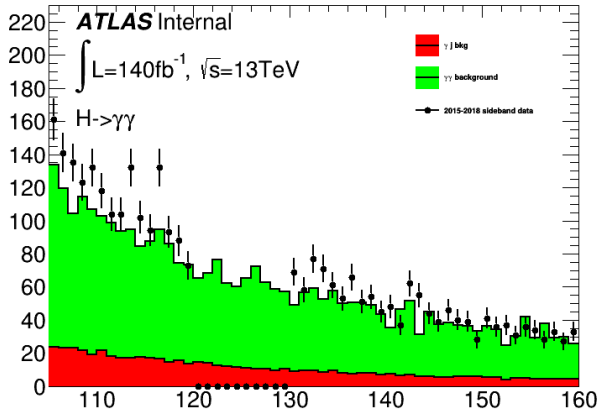
Data-MC comparison



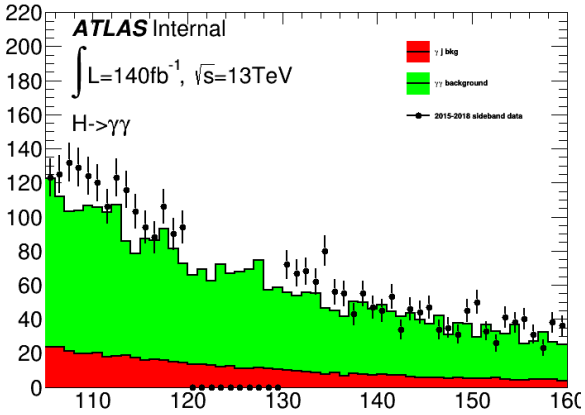
-20<OO<-2



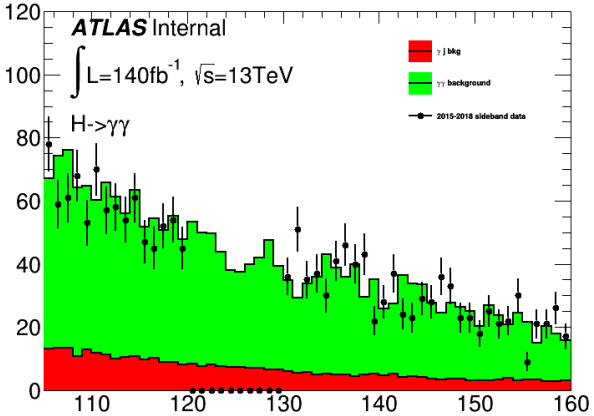
-2<OO<-1



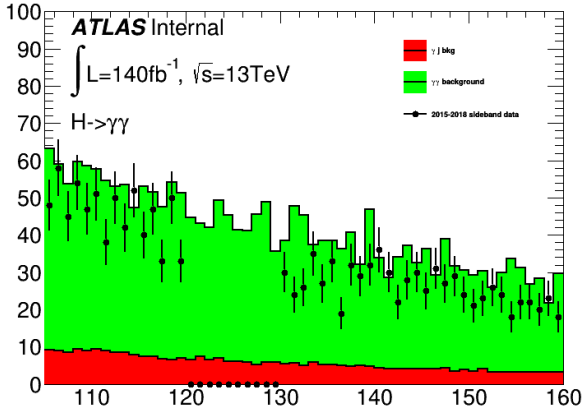
-1<OO<0



0<OO<1



1<OO<2



2<OO<20

Data-MC comparison

Data and MC still can’t match

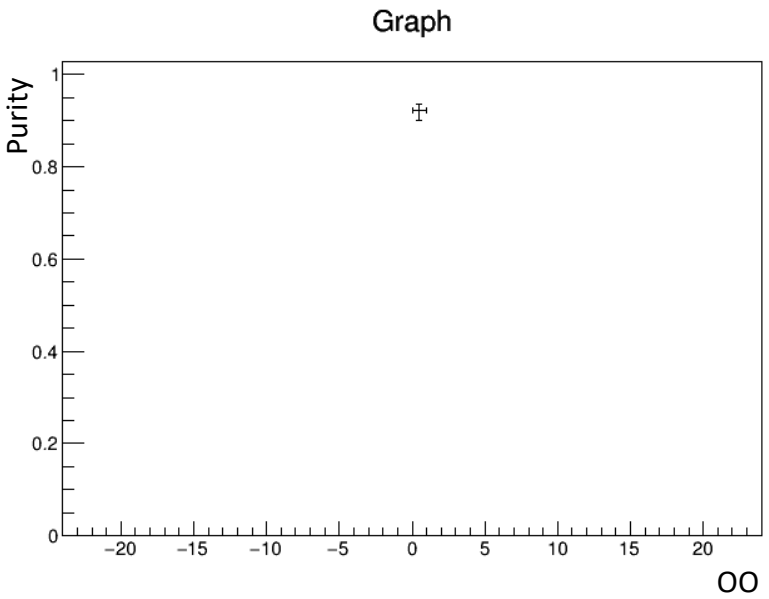
- Calculate yy purity for each OO bins, see if it would be better.

  √ Added the OO into Purity2x2DSB package.

  x Output result is not as expected.

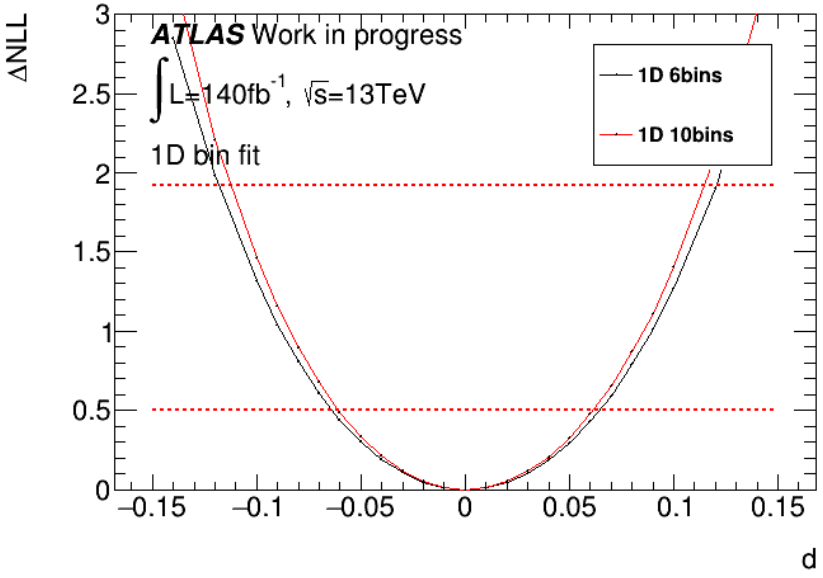
```
Ngg    = 3500
Ngj    = 270
Njg    = 141
Njj    = 13
Purity = 0.891947
```

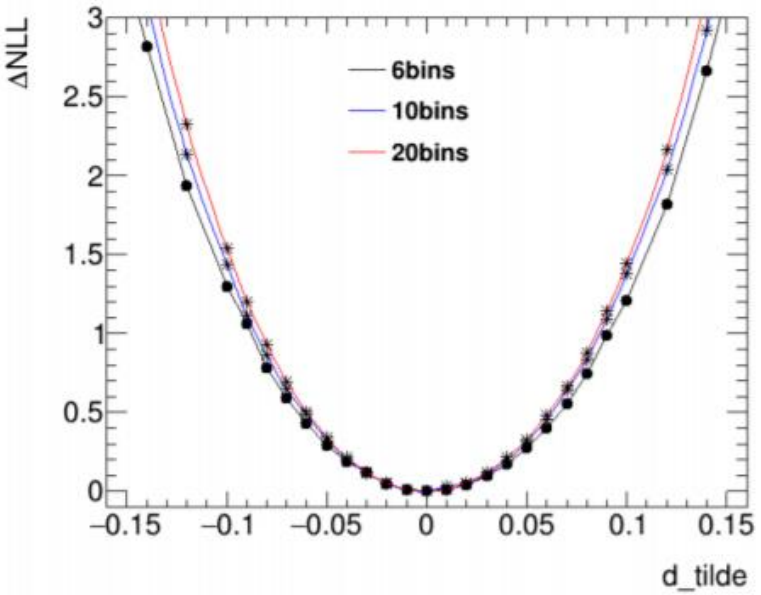
- Update to h025 to try Pflow jets.



Only returned central bin purity

Cross check

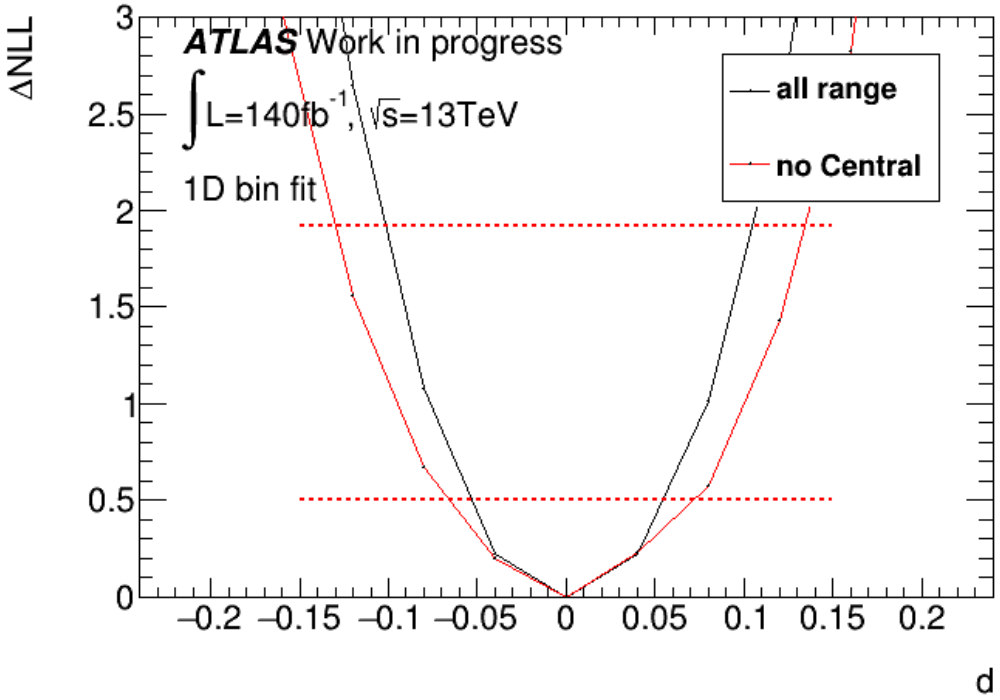




Left: my latest result. Right: Huirun's result last time
We have similar result with same OO binning.

Cross check

Remove central range OO ∈[-3, 3] in 1D binned fit



In 1D Binned fit, “All range” combined the contribution from each OO bins.

Previous result was in 2D fit. Going to check later.