



# **Updated IBL Geo ttbar study**

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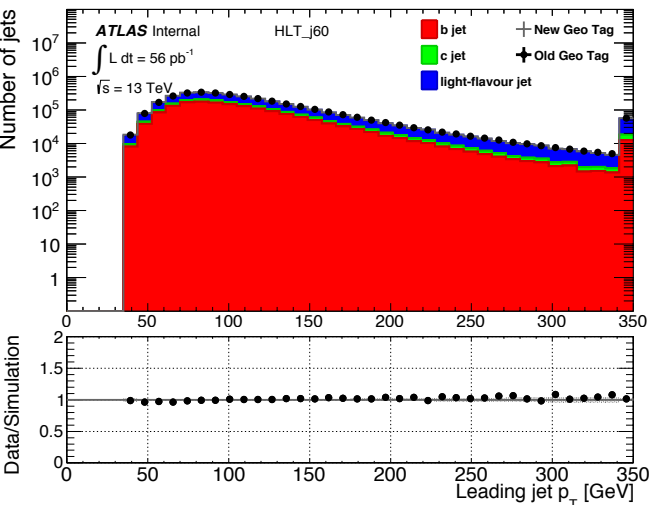
- No Trigger
- Jets
  - $p_T > 35 \text{ GeV}$
  - $|\eta| < 2.5$
  - $JVT > 0.641$  (if  $p_T < 50 \text{ GeV}$  and  $|\eta| < 2.4$ )
- 2 Jets Required

### **Samples**

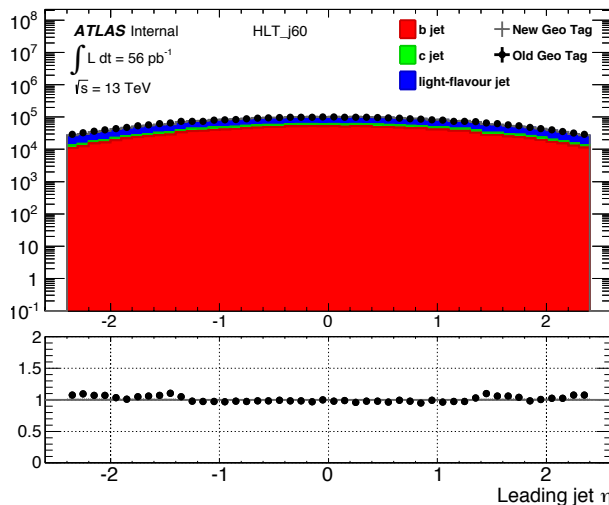
- Old Geo Sample
  - mc15\_13TeV.410000.PowhegPythiaEvtGen\_nonallhad.merge.AOD.e3698\_a766\_a767\_r6264
  - Geo Tag: ATLAS-R2-2015-03-01-00\_VALIDATION
  - Slim == No Tracking info for this sample
- New Geo Sample
  - mc15\_13TeV.410000.PowhegPythiaEvtGen\_s2700\_r7117\_r6282
  - Geo Tag: ATLAS-R2-2015-03-06-00\_VALIDATION
  - Tracking Group Looked at this sample here:  
[https://indico.cern.ch/event/455227/contribution/2/attachments/1172024/1692692/IPreport\\_dyamaguc\\_161015.pdf](https://indico.cern.ch/event/455227/contribution/2/attachments/1172024/1692692/IPreport_dyamaguc_161015.pdf)



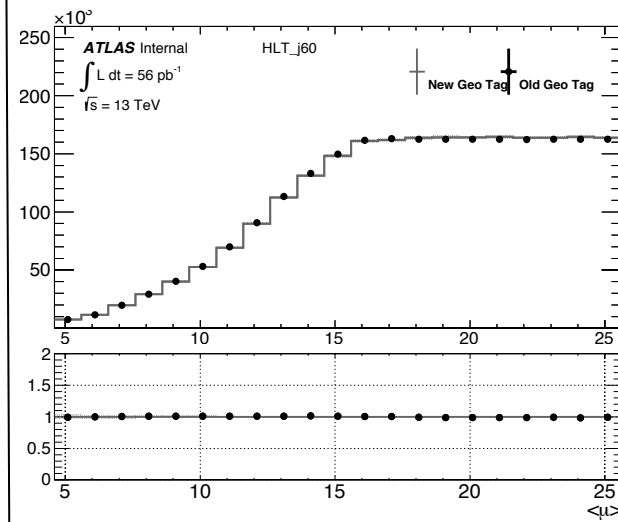
## Leading Jet:



Jet Pt

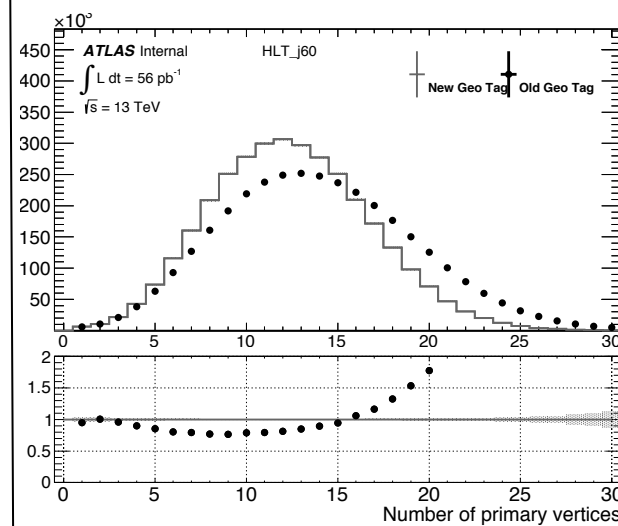
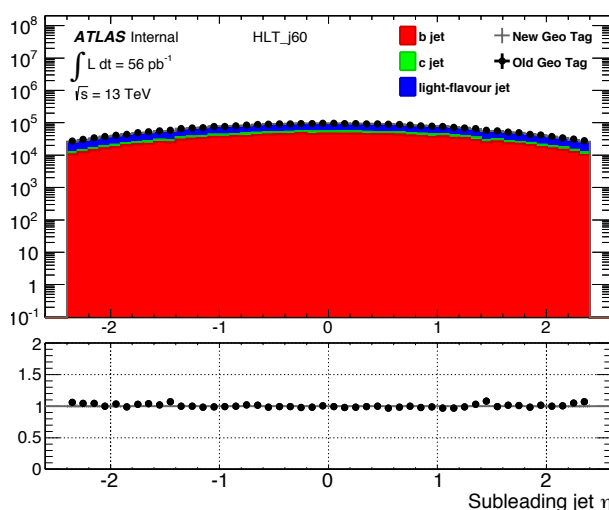
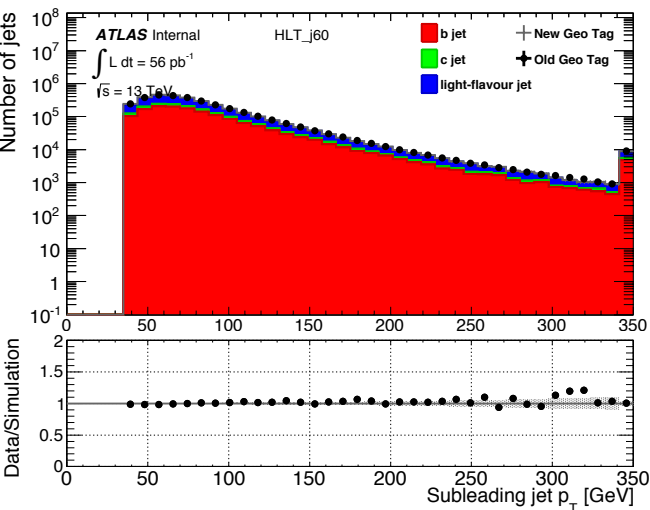


Eta



Avg Mu

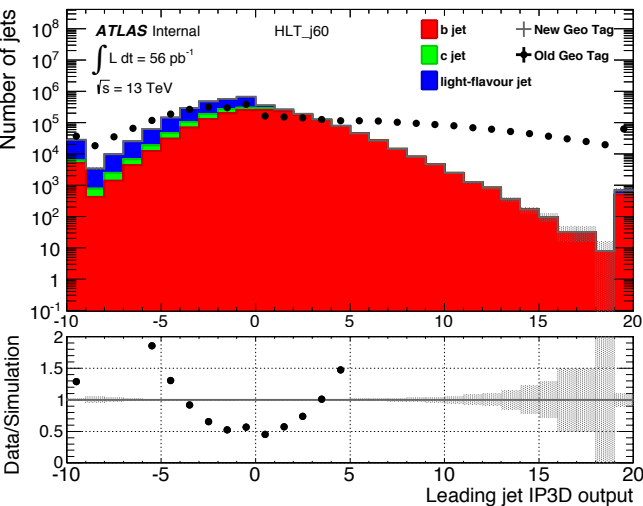
## Sub-Leading Jet:



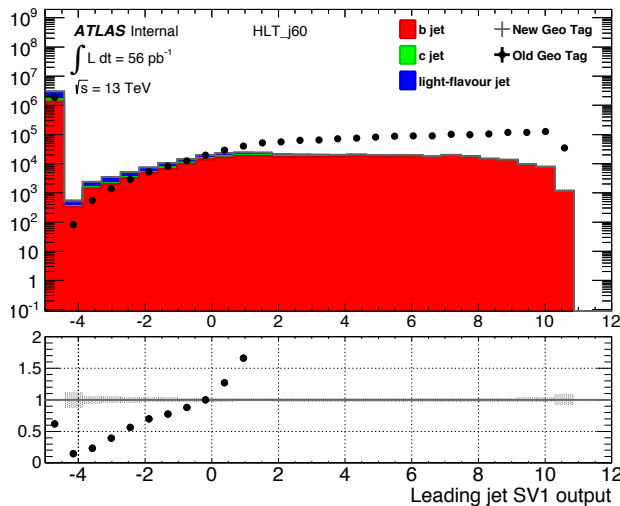
nPV



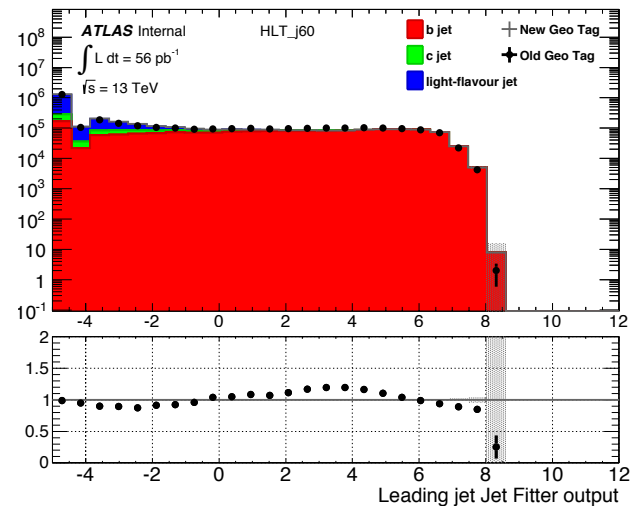
## Leading Jet:



IP3D

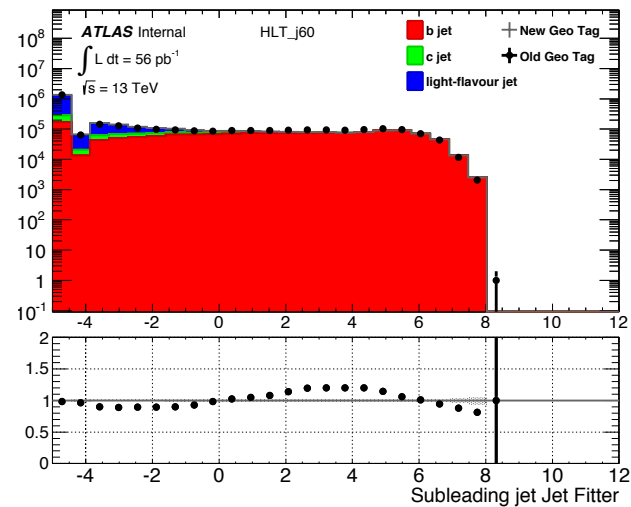
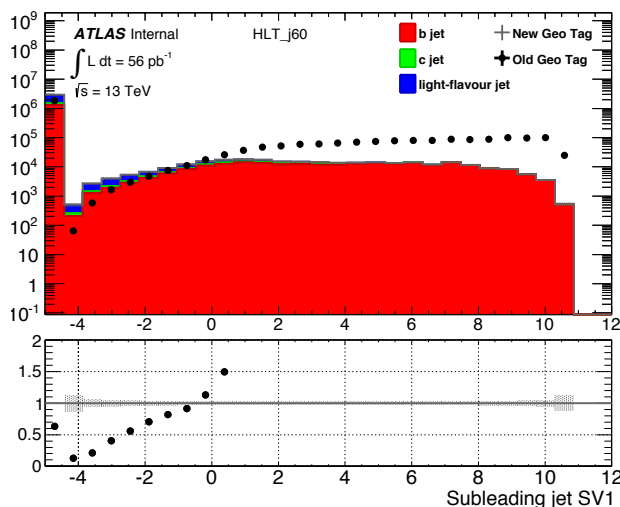
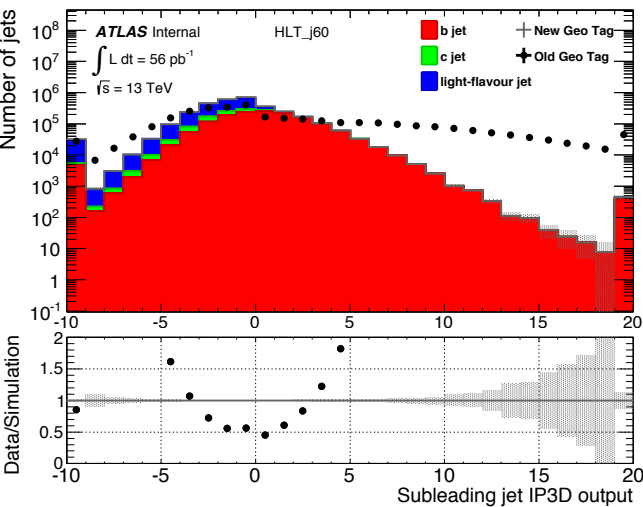


SV1



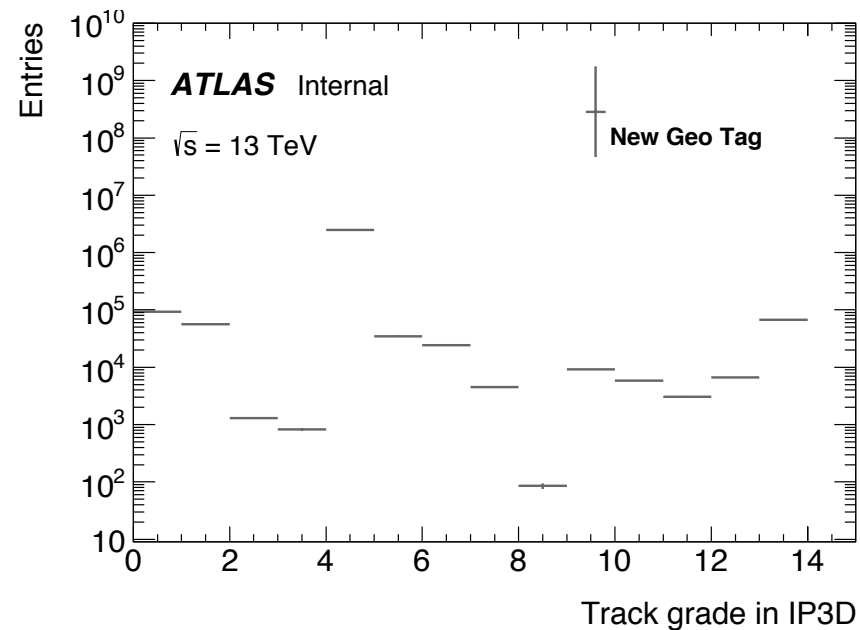
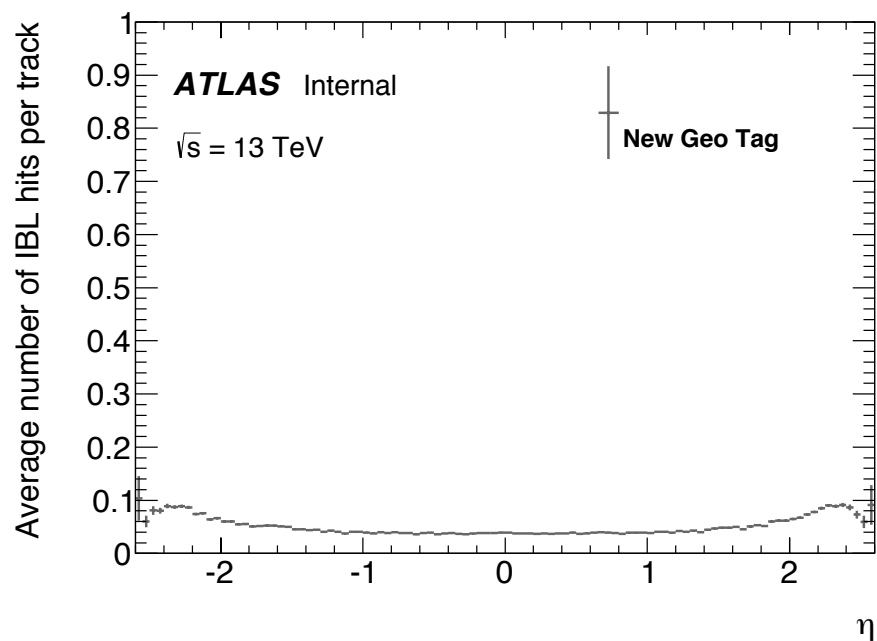
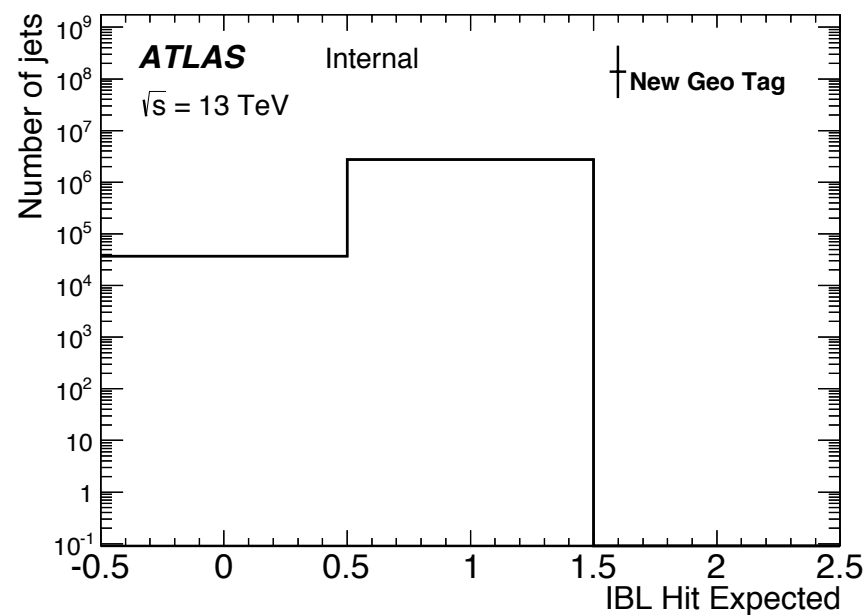
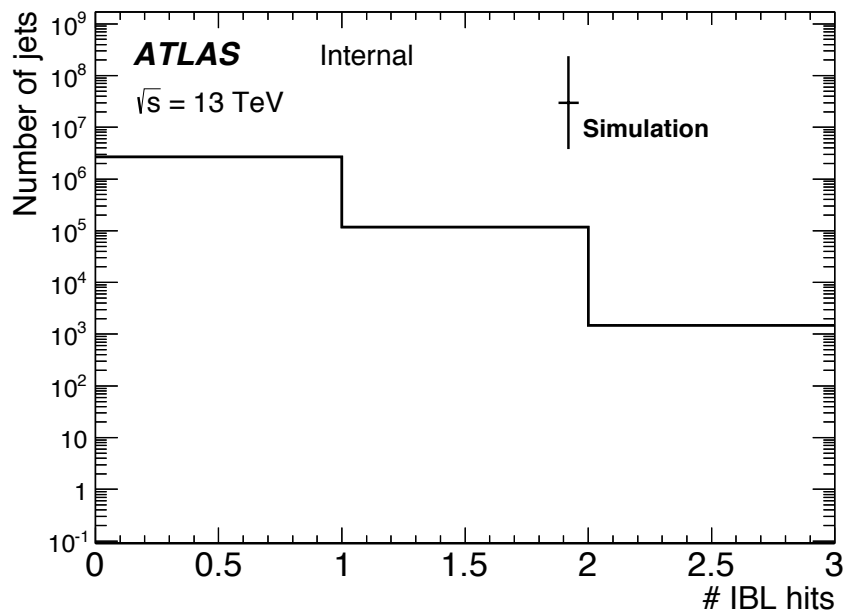
JF

## Sub-Leading Jet:



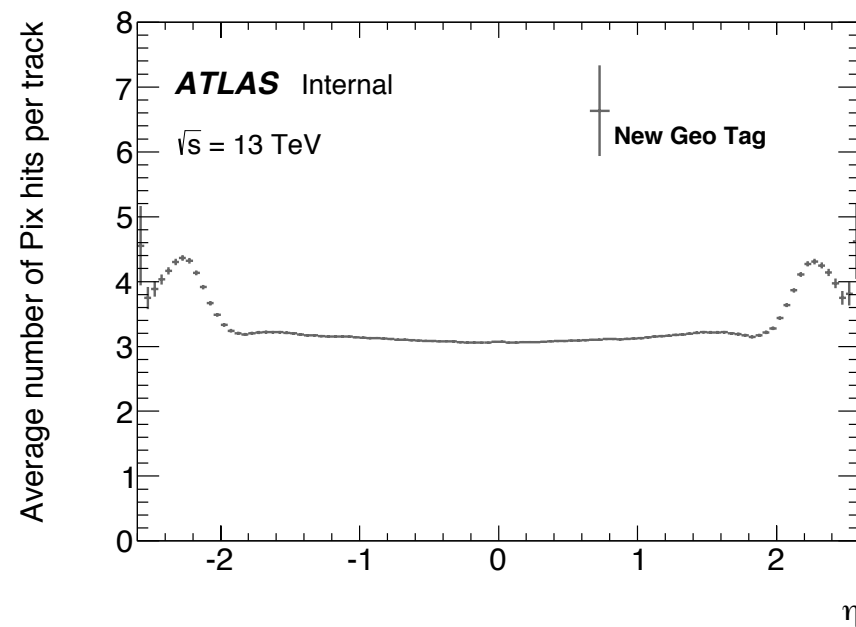
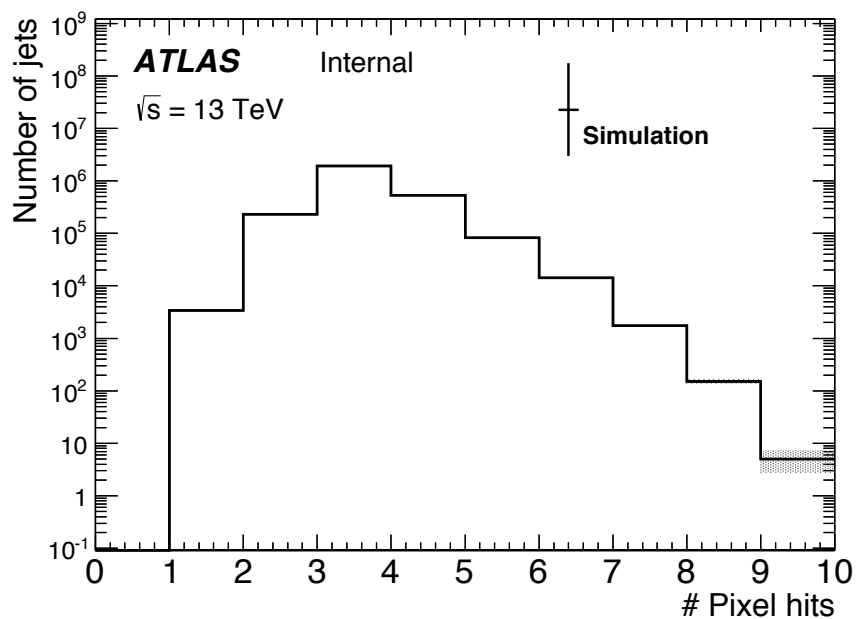
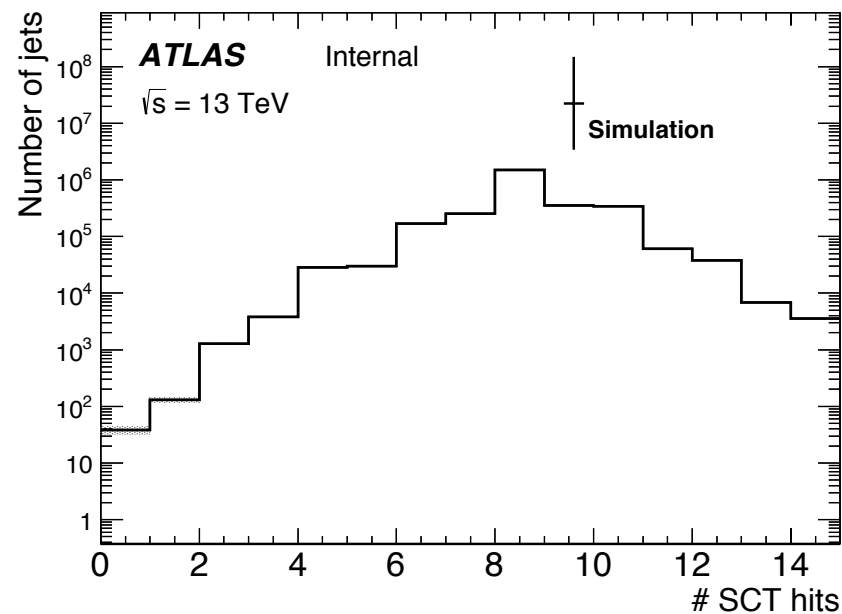
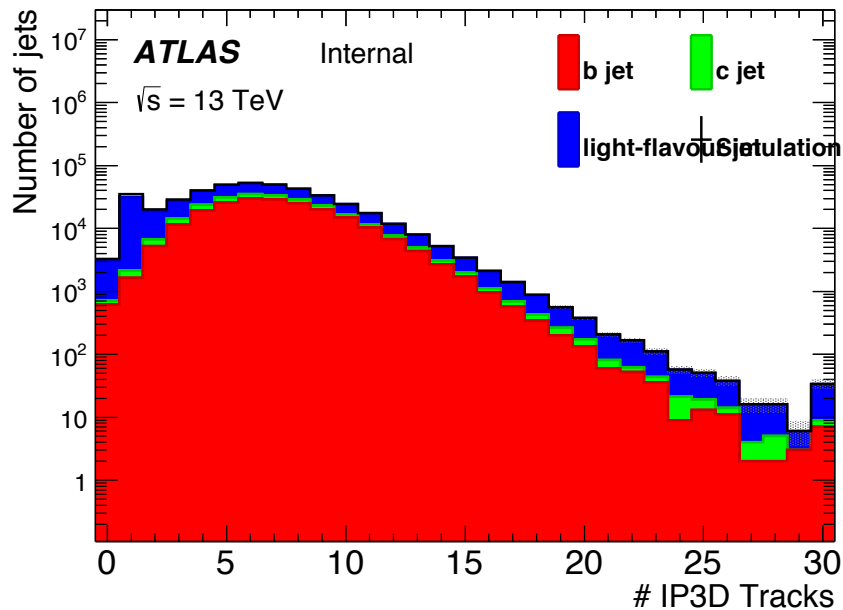


## 5 A Look at IBL (Updated Geo Only)





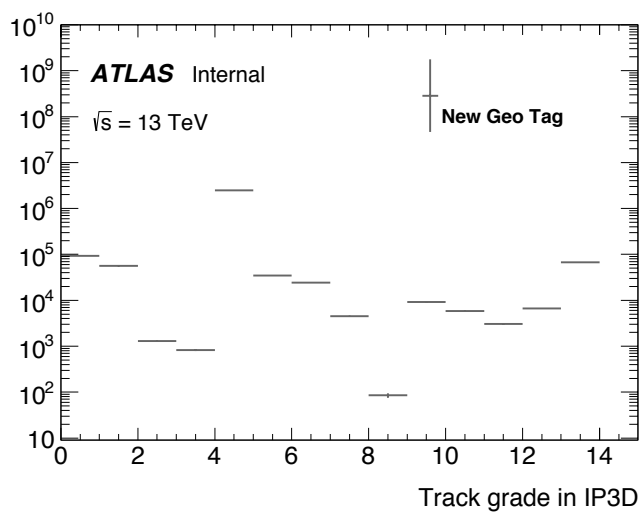
# 6 A Further Look at Tracking (Updated Geo Only)





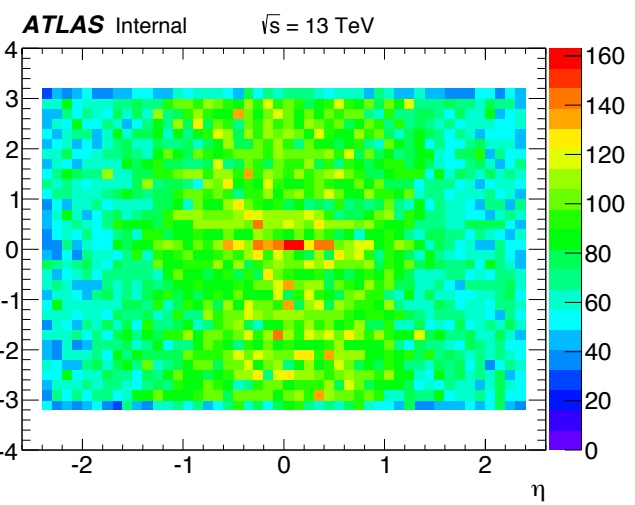
# 7 IP3D Grades

## IP3D Categories:

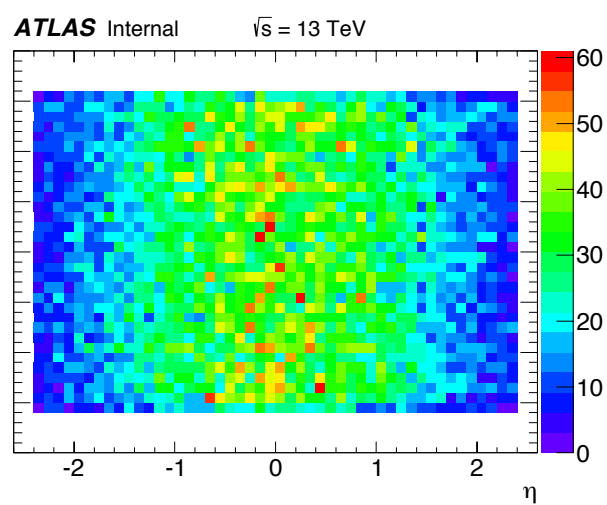


- 0 - 0In0Nln\_ElnENln: no hit in first 2 layer and both expected
- 1 - 0In0Nln\_Eln: no hit in first 2 layer and expected in the first
- 2 - 0In0Nln\_ENln: no hit in first 2 layer and expected in the second
- 3 - 0In0Nln: no hit in first 2 layer and not expected
- 4 - 0In1Nln\_Eln: no hit in first layer and expected
- 5 - 0In1Nln: no hit in first layer and not expected
- 6 - 1In0Nln\_ENln: no hit in second layer and expected
- 7 - 1In0Nln\_ENln: no hit in second layer and expected
- 8 - First2LayerShared: shared in both first and second layer
- 9 - PixelShared: at least 1 share in first 2 layers or shared in other layers
- 10 - SCTShared: >1 shared in SCT (noPixShared)
- 11 -First2LayerSplit: at least a split hit in one of the first 2 layer
- 12 -PixelSplit: split hits in other pixel layers
- 13 -Good: split hits in other pixel layers

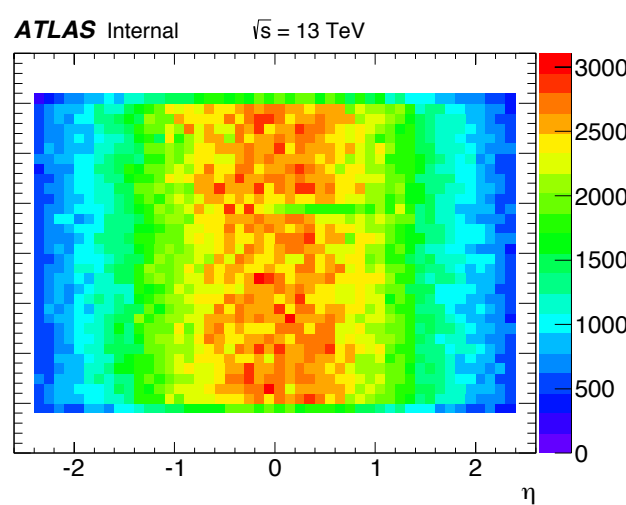
## IBL Hit Categories: 6-13



## No IBL Hit and Not Expected Categories: 2,3,5

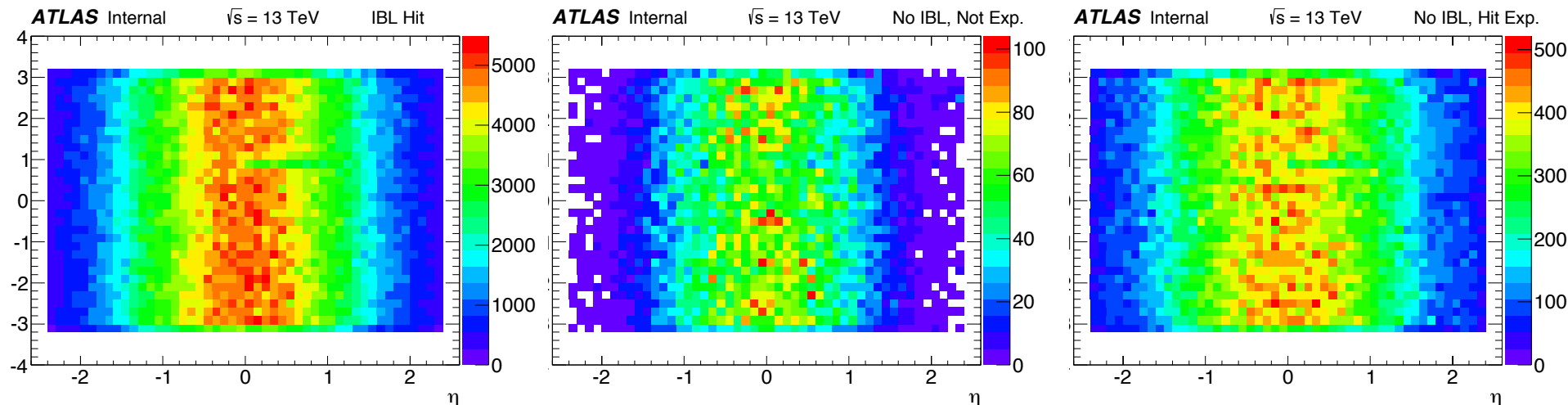


## No IBL Hit and Expected Categories: 0,1,4





## V21 ZPrime Sample:



IBL Hit

No IBL Hit and Not Expected

No IBL Hit and Expected

## Updated Geo Sample:

