

Work in progress

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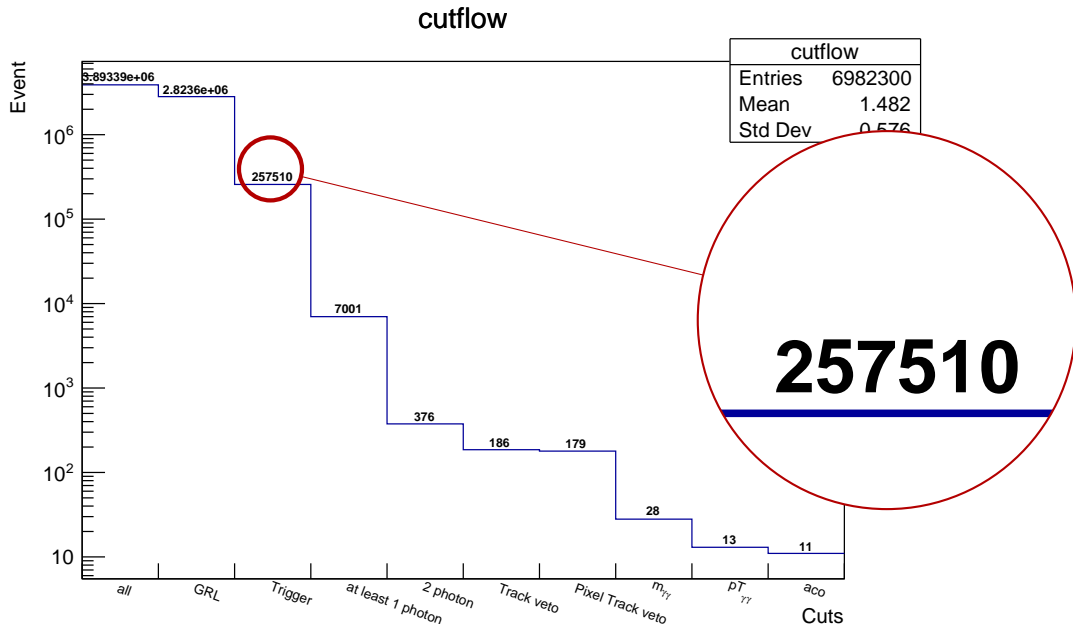
LbyL Analysis

Introduction

News

- answer to PRL reviewer sent !
- MC samples for ALPs search under submissions ATLHI-289
10k events per axion mass: 6-30 GeV every 1 GeV 30-100 GeV every 10 GeV
[ATLHI-274](#)
- 2015 reprocessed data (issue still under investigation)

data15 :cutflow update



data15 : cutflow update

Event passing the aco requirement : exactly the same as Iwona

```
* Row *      EventNumber * RunNumber *
*****
 0 *      * 148512026 *    287044
 1 *      * 124556750 *    287330
 2 *      * 293224070 *    287330
 3 *      * 312121451 *    287706
 4 *      *  47870988 *    287706
 5 *      *  11553592 *    287728
 6 *      * 362860889 *    287843
 7 *      *  95169570 *    287843
 8 *      * 101850491 *    287866
 9 *      * 106830493 *    287924
10 *      * 461251458 *    287931
*****
```

TRT PID

Introduction

Goal: Investigate the PID performance in run-3

- ☆ How the particle ID performance for run-3 will look like at $\langle \mu \rangle \geq 70$
- ☆ Will TRT PID still relevant enough
- ☆ What gas configuration will be suitable
- ☆ look at Ar straws in real data HT and ToT vs SL

samples

```
Zmumu :  
group.det-indet.data18_13TeV.00350923.physics_Main.merge.TRtxAOD_ZMUMU.f937_m1831_trt108-03_EXT0  
Z :  
group.det-indet.data17_13TeV.00340453.physics_Main.daq.TRt_xAOD_Z.f894_03_EXT0  
Zee :  
group.det-indet.data17_13TeV.00340453.physics_Main.daq.TRt_xAOD_Zee.f894_EXT0
```

Electron $p_T > 10$ GeV

Muon $p_T > 10$ GeV

Track $p_T > 2.5$ GeV

Muon momentum cut 50 GeV

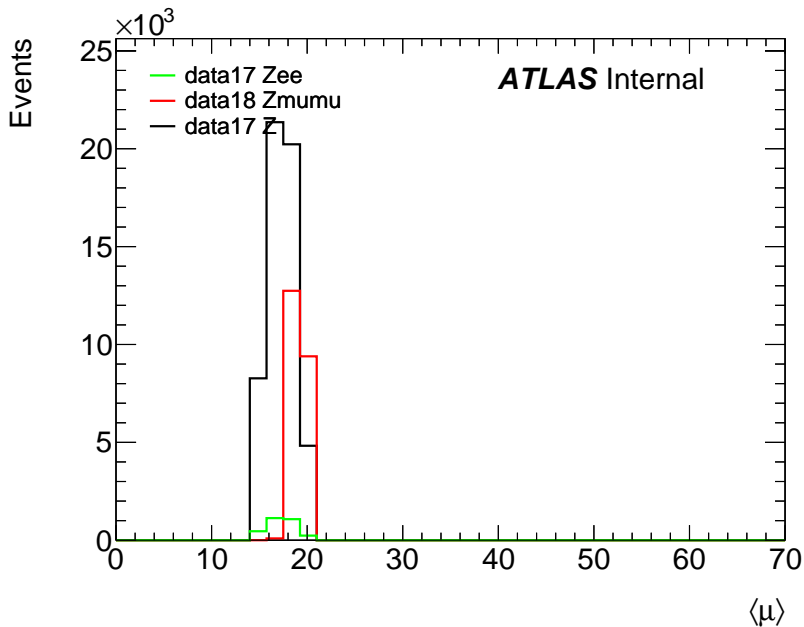
$|\eta| < 2.0$

PixHits: 2

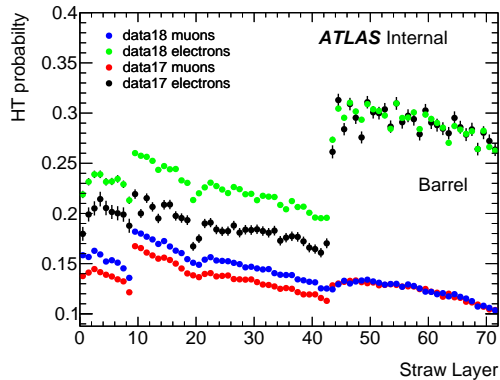
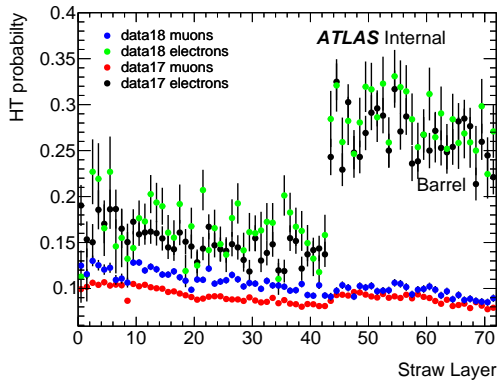
SiliconHits: 7

TRTHits: 15

$$15 < \langle \mu \rangle < 20$$

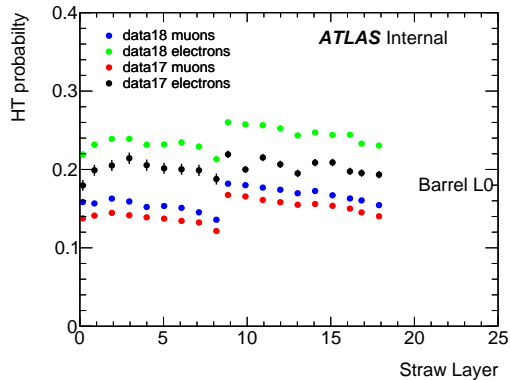
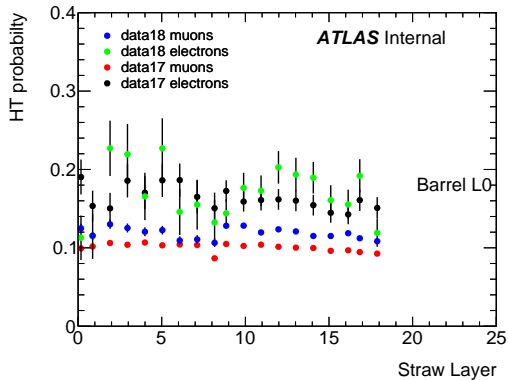


HT Probab vs SL Barrel



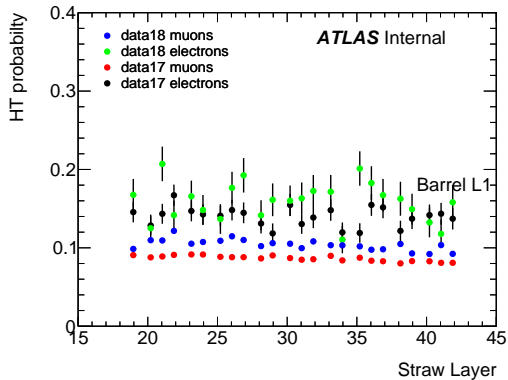
$$15 < \langle \mu \rangle < 20$$

HT Probab vs SL Barrel L0

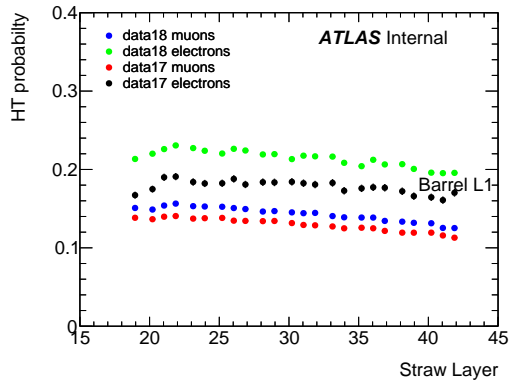


$$15 < \langle \mu \rangle < 20$$

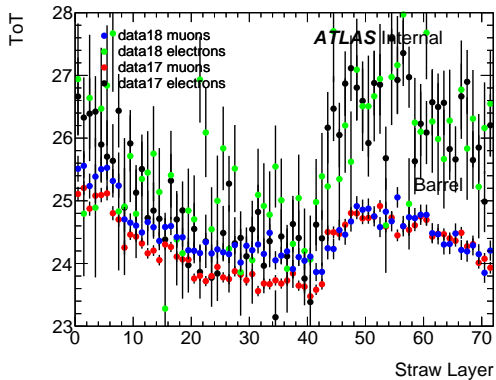
HT Probab vs SL Barrel L1



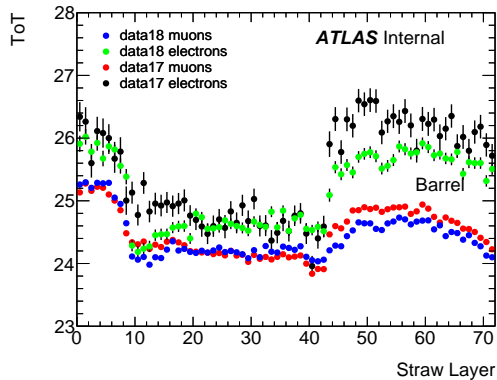
$$15 < \langle \mu \rangle < 20$$



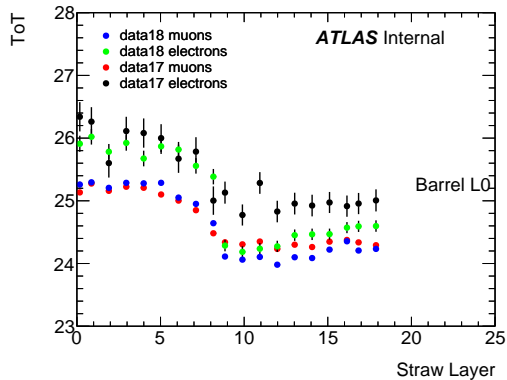
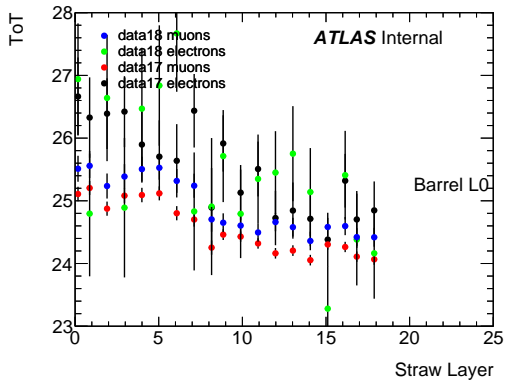
ToT vs SL Barrel



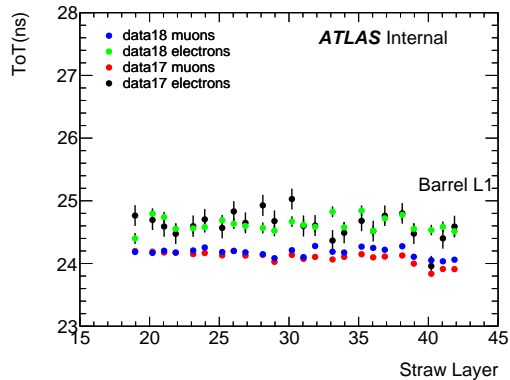
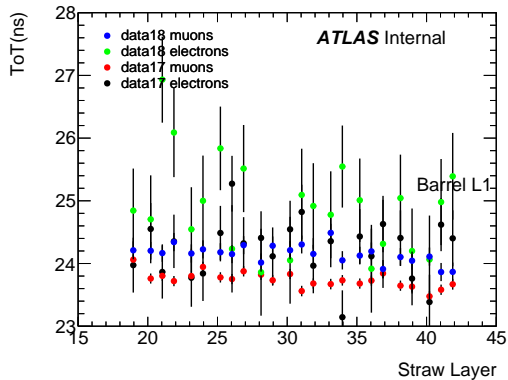
$$15 < \langle \mu \rangle < 20$$



ToT vs SL Barrel L0



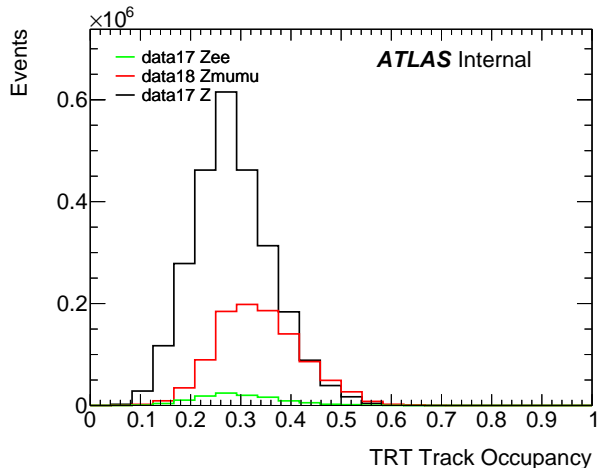
ToT vs SL Barrel L1



$$15 < \langle \mu \rangle < 20$$

Outlook

- First look to ToT vs SL distributions
- next : use all mu range and look to different occupancy slices slices



Backup