

# ATLAS RHUL Meeting

Neil Cooper-Smith

14/07/09



# Problems with ATLFAST I in v14 - jets

## ➤ Zero energy jets:

Atlfast-1 jets when running in 14.5.X have zero energies. Problem occurs when reading in jets from an AOD file that were produced in 14.5.X. This happens even if you are reading the jets into a very up to-date release like 15.2.0. It appears to be a problem with the jet TP converters, and is not something that can easily be fixed.

## ➤ Solution:

- produce the jets in the same job as running on them, avoiding the TP conversion.
- produce the AODs in release 15!

# Problems with ATLFAST I in v14 - photons

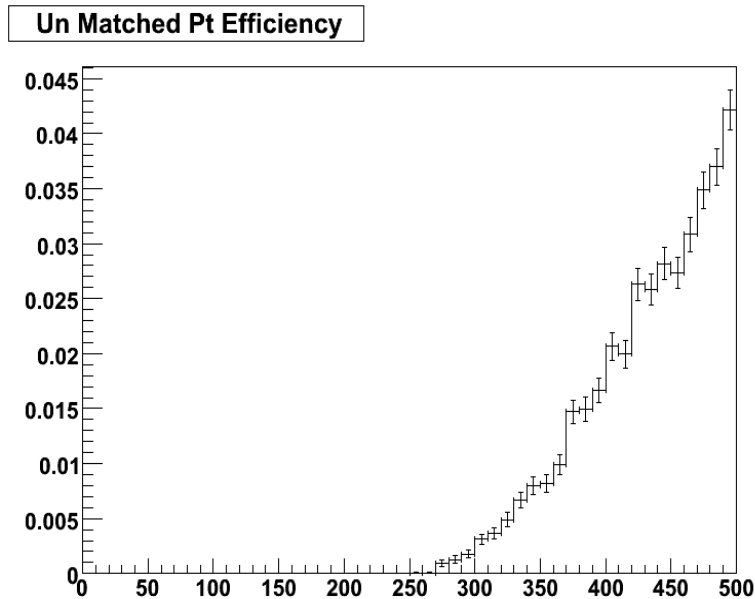
## ➤ Flipping Photons:

High pT Atlfast photons appear to flip direction during reconstruction. e.g.

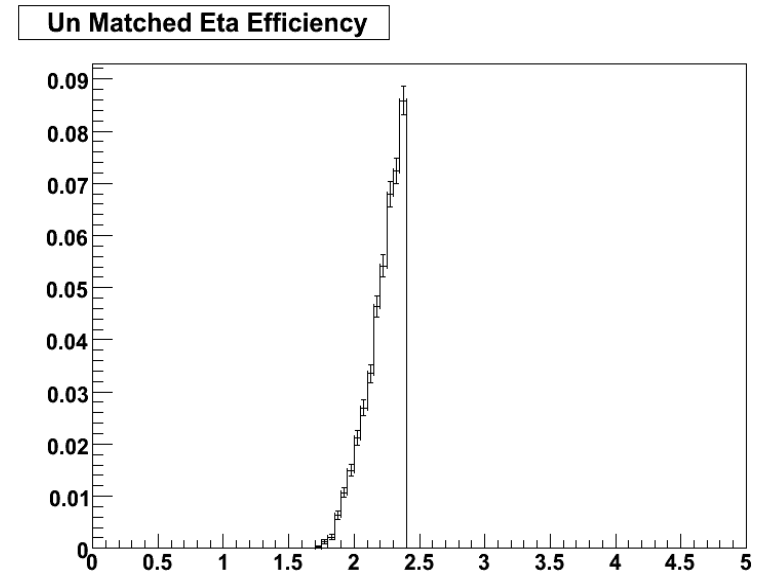
```
> ----- Truth Photon(s) -----  
> [index] [pt] [eta] [phi]  
> 0 420418 -2.33433 -1.26303  
> -----  
> ----- Reco Photon(s) -----  
> [index] [pt] [eta] [phi]  
> 0 -429313 2.33433 1.87856
```

# Problems with ATLFAST I in v14 - photons

- Scale of the problem ( $\gamma$ s in a single  $\gamma$  (Et80-500GeV) sample):



How far in pT does this go?

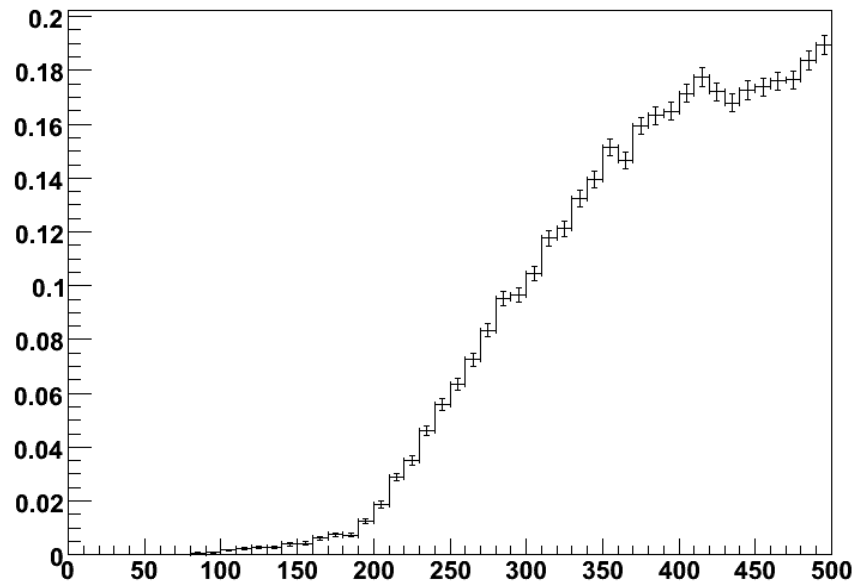


Upto a 10% effect in eta

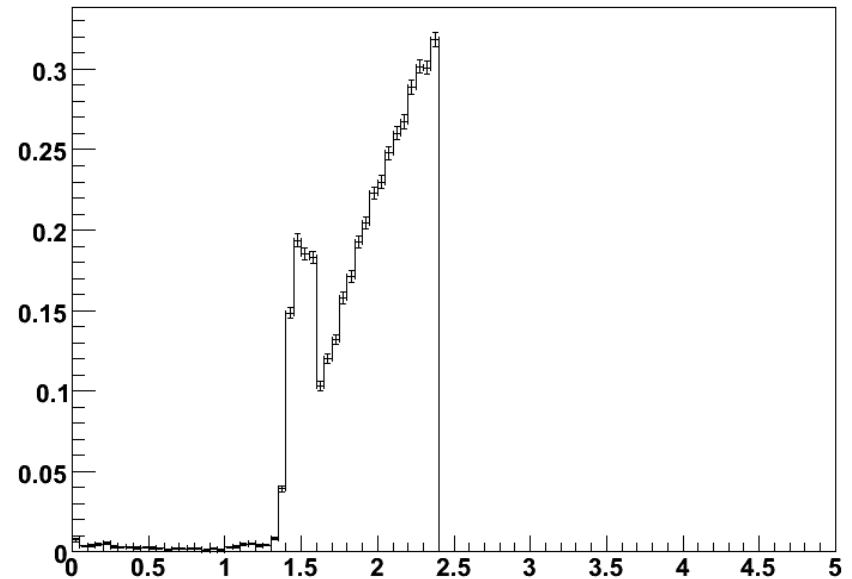
# Problems with ATLFAST I in v14 - photons

- Scale of the problem (isolated  $\gamma$ s in a single  $\gamma$  ( $E_{t80-500\text{GeV}}$ ):

Un Matched Pt Efficiency



Un Matched Eta Efficiency



Upto a 30% effect in eta with a crack region appearing!