

# H->bb Weekly Meeting

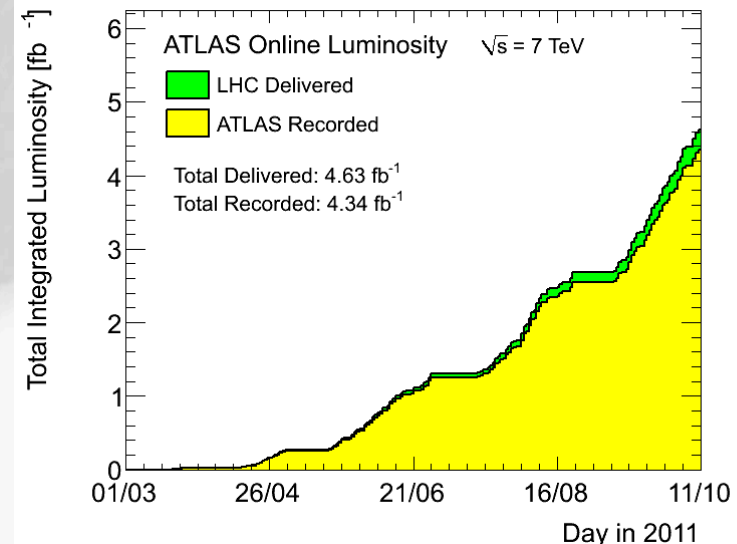
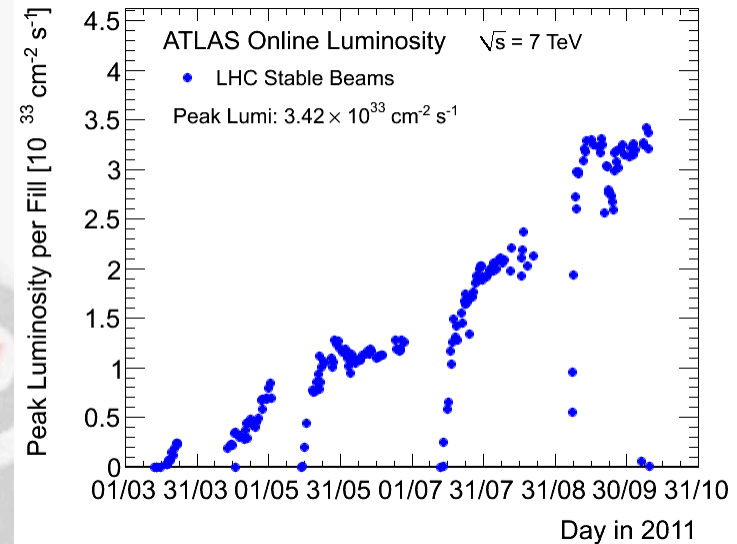


Ricardo Gonalo (RHUL)

HSG5 H->bb weekly meeting, 11 October 2011

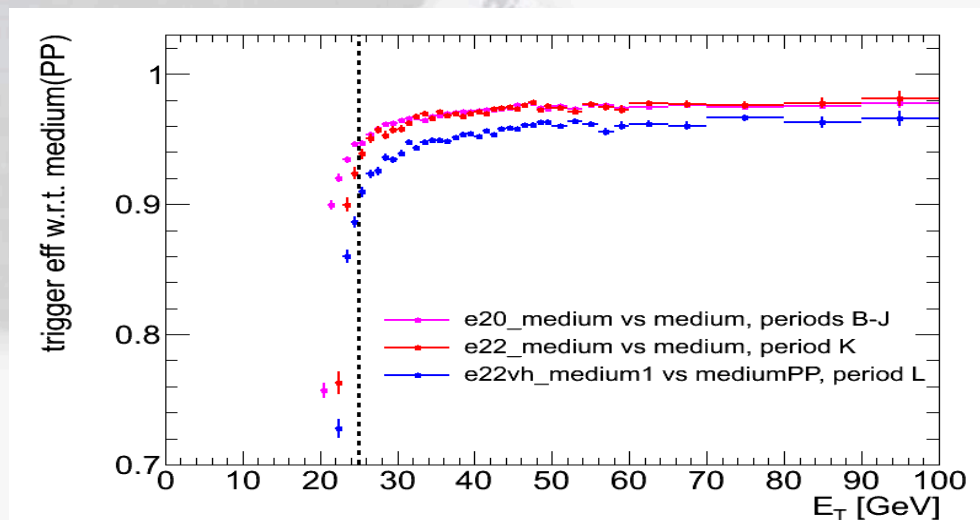
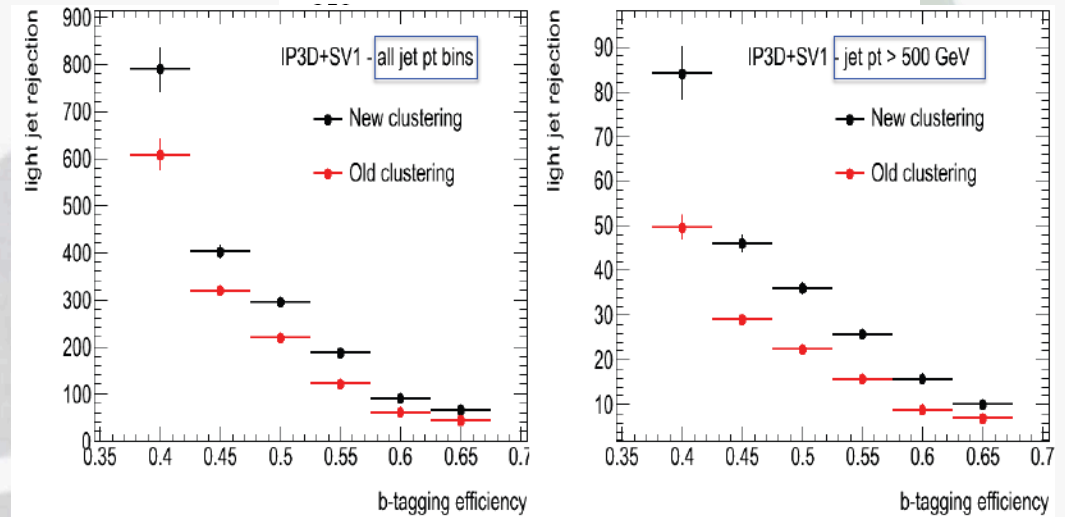
# News! News! News!

- Peak stable lumi  $3.31 \times 10^{33} \text{cm}^{-2} \text{s}^{-1}$
- $4.3 \text{fb}^{-1}$  with stable beams collected so far –  $4.6 \text{fb}^{-1}$  delivered
- $\approx 350 \text{pb}^{-1}$  collected last week
- Pileup peak around 21
- 25ns run taken on 7<sup>th</sup> Oct. with 288 bunches – more on Thursday this week



# News from ATLAS Week

- Pixel cluster residuals much reduced for  $|\eta| > 1$
- New pixel clustering improves  $b$  tagging
- New single electron trigger since period L: e22vh\_medium1
- Other useful triggers (for ZH):
  - 2e12Tvh\_medium
  - e15vh\_loose1\_e12Tvh\_loose1\_Zee
- Glossary:
  - V = L1 threshold variable in  $\eta$
  - H = hadronic core leakage < 1 GeV
  - T = thin “gap” between L1 and HLT thresholds
  - Medium1 corresponds to offline “medium++”



# HSG5 D3PD Status

- New stream for gamma+bb:
  - Selection modified to loosen cuts for gamma+bb
- Z->bb:
  - Some changes to HighPtTracks implemented by Ilektra:
    - Lowered pT cut, stored more track info
    - Not yet validated
  - Adding b-tagging info and more changes to D3PD, will privately produce small validation samples for tests
- WH->Inubb: Validated by Edinburgh
- WH stream ready to go to DPD train!
  - Means getting your D3PDs for new data with no effort...
- **ZH analyses need to check Skim selections before adding this to DPD train!**

Output Skim	#events	Size
HSG5WH	5.5 M	340 GB
HSG5ZHLL	5.5 M	340 GB
HSG5ZHMET	4.8 M	240 GB
HSG5ZBB	8 M	480 GB
Total	24 M	1.4 TB

Input Stream	Period	#events	Size
JetTauEtmiss	E	8,588,376	1.27 TB
Muons	E	6,182,165	0.89 TB
Egamma	E	8,157,991	1.01 TB
JetTauEtmiss	H	37,748,640	5.51 TB
Muons	H	28,367,693	3.99 TB
Egamma	H	29,506,835	3.56 TB
Total	E+H	118,551,700	16.2 TB

# MC requests

Inclusive and boosted H->bb samples for MC11b:

- Herwig++ in Powheg
- Mass points:  $M_H = 110, 115, 120, 125, 130, 135, 140, 145, 150$  GeV
- WH->lvbb, ZH->llbb, ZH->vvbb
- Both boosted and inclusive for each mass
- Approved for production – still in waiting list for MC11b production (delays in MC11a)
- Other samples:
  - Wbb, Zbb
  - ZH, WZ, WW -> lljj and llbb final states
  - Gluon-fusion H->bb
- See Junichi's page:  
[https://twiki.cern.ch/twiki/bin/view/AtlasProtected/HSG5Higgs2bbFinalState#H bb MC samples](https://twiki.cern.ch/twiki/bin/view/AtlasProtected/HSG5Higgs2bbFinalState#H_bb_MC_samples)