

Current Updates QT and VBF Analysis



AG Biebel Analysis Meeting

10/12/24

Celine Stauch

- VBF Analysis: Progress update on easyjet VBF channel
- QT: New approach for Stand-alone Study

VBF – HH Analysis

Include VBF 1 lep Channel in [easyjet/bbVVAnalysis](#):

- Include VBF boosted and splitboosted in list of channels ✓
- Add Lepton selection ✓
- Add Small R Jets Selection ✓
- Add Large R Jet Selection ✓
- Adapt Mass Jet Classification for LR Jets ✓
- Add VBF Jet Selection (work in progress)
- Adapt Tree to display the cuts in histograms (work in progress)
- Some selections, e.g. max_eta , need to be changed or tested to fit VBF channel

VBF – HH Analysis Current issues

Issues since changing max_eta to 4.5;

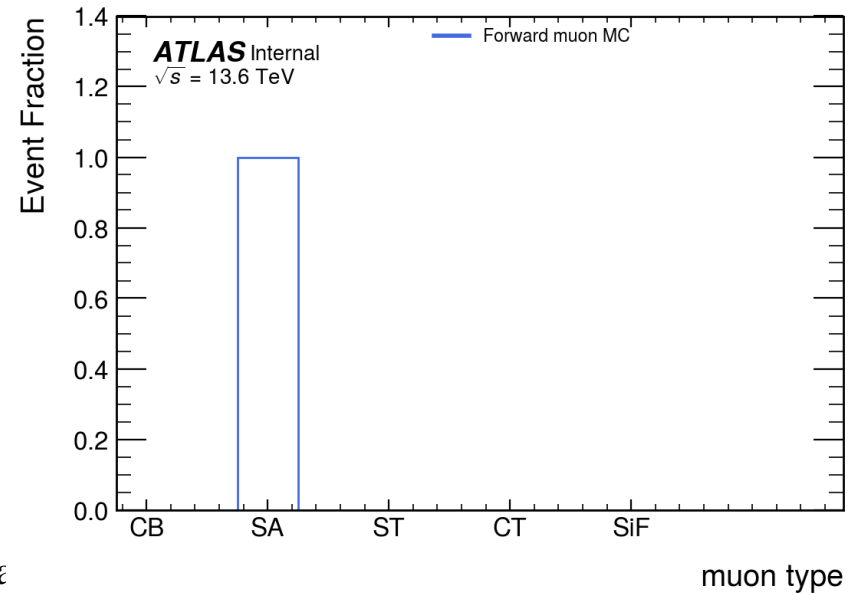
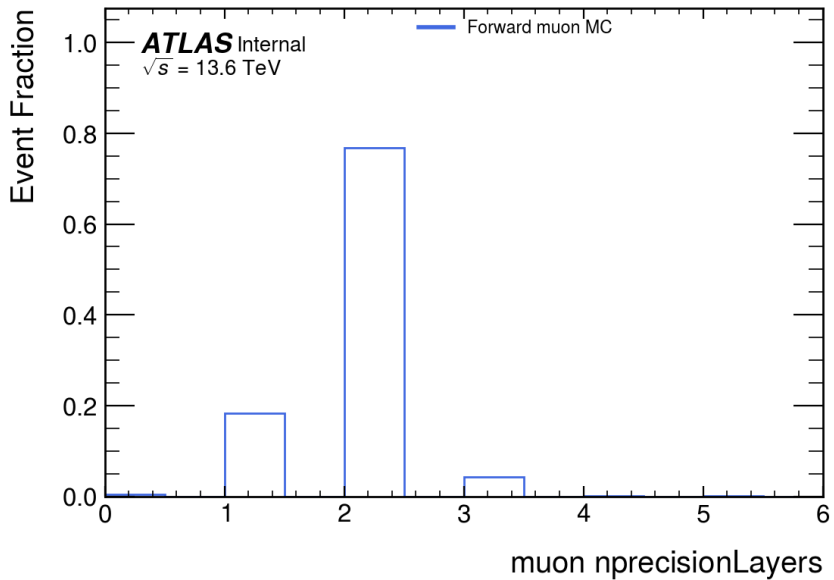
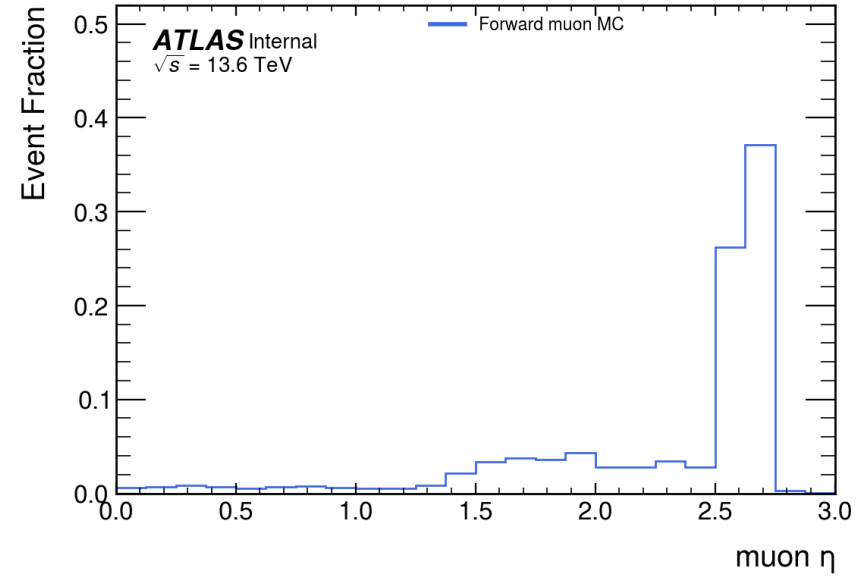
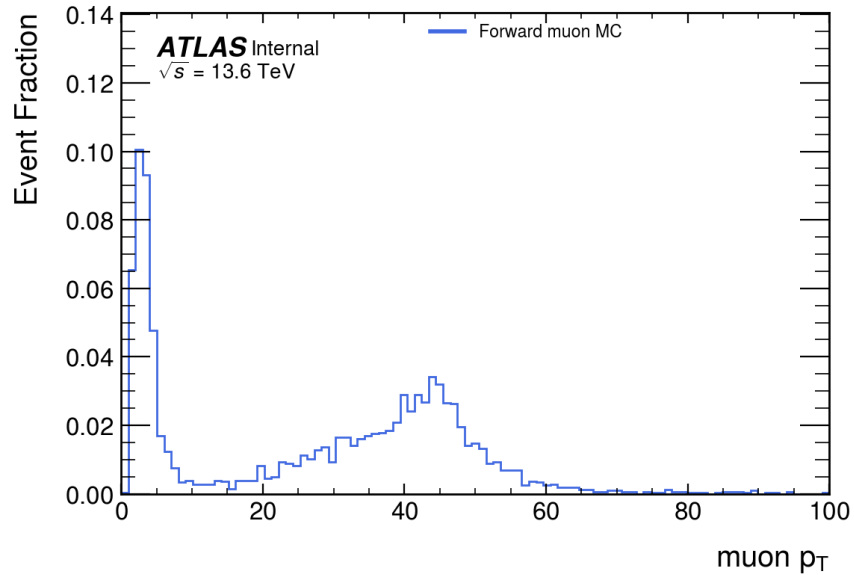
- Add VBF Jet Selection (work in progress)
 - Functions crash with segmentation violation (not found jet)
 - ➡ need to fix for boosted and splitboosted Topology
- Understand JetSelectorAlg
 - ➡ Could add an instance for FW Jets

QT Progress

- Supervision: Volker and Stelios are in charge of the current study
- Fake Rate study will be continued by a new PostDoc in MCP group
- Main focus: Get MuonTPPostProcessing up to date for High Eta and produce efficiency SFs

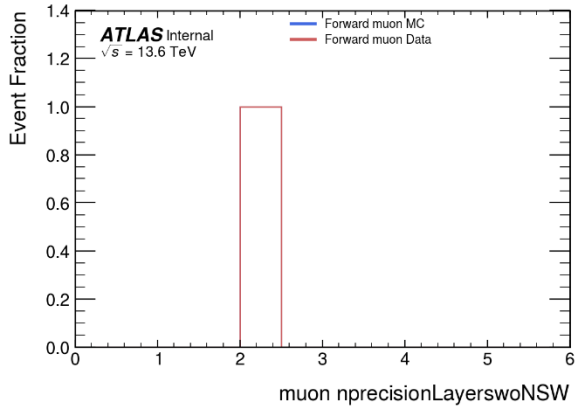
BackUp

Additional Plots – SA Muon Type

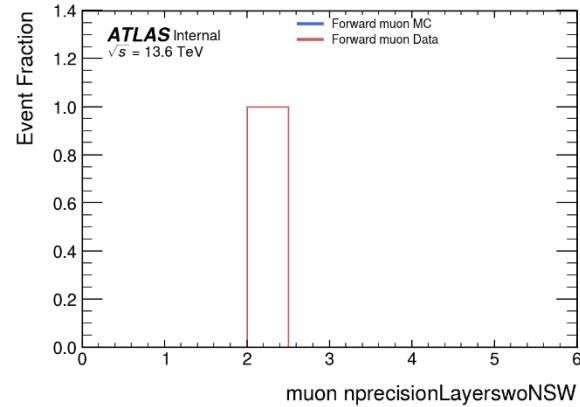


Additional Plots – Test Eta Range

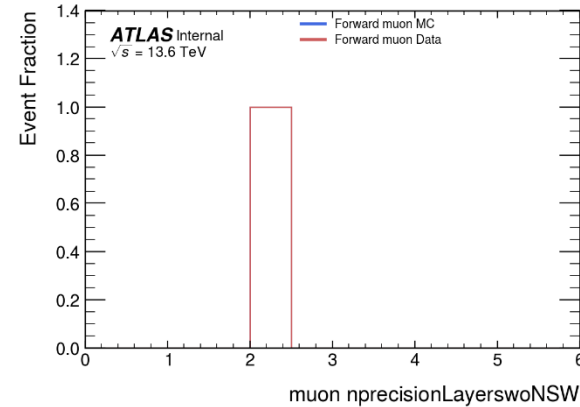
$|\eta| \geq 2.4$



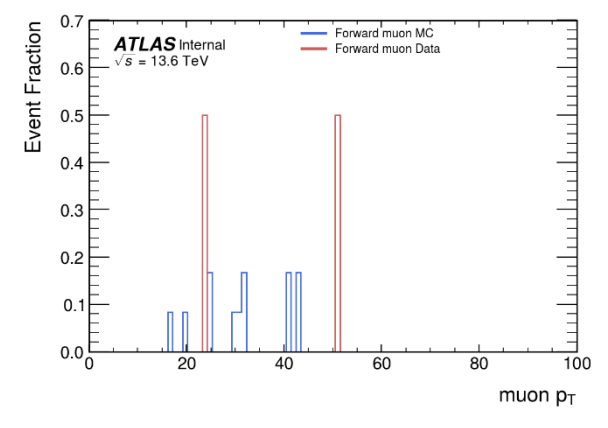
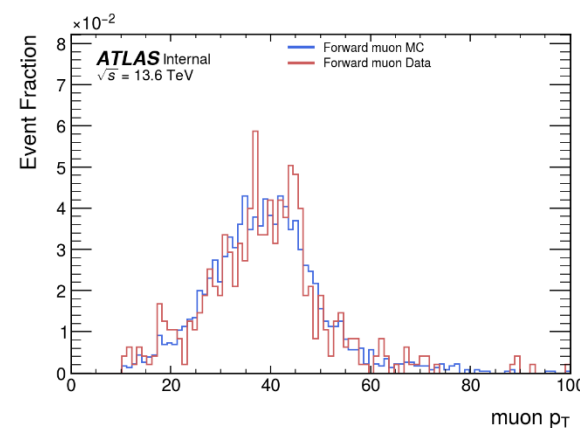
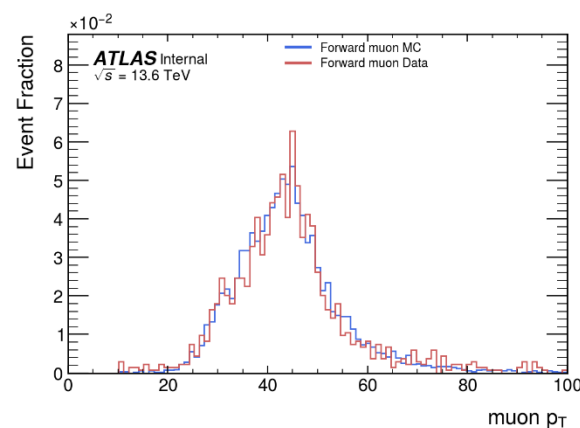
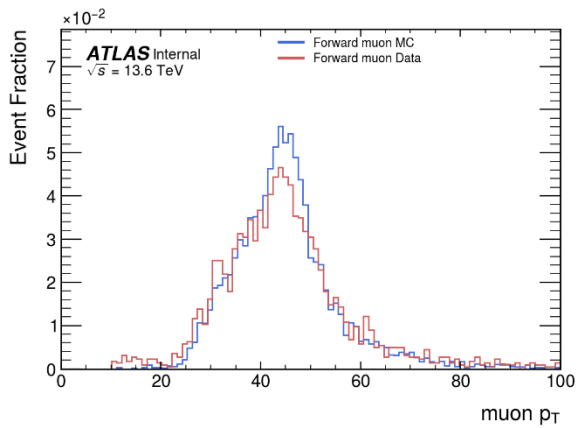
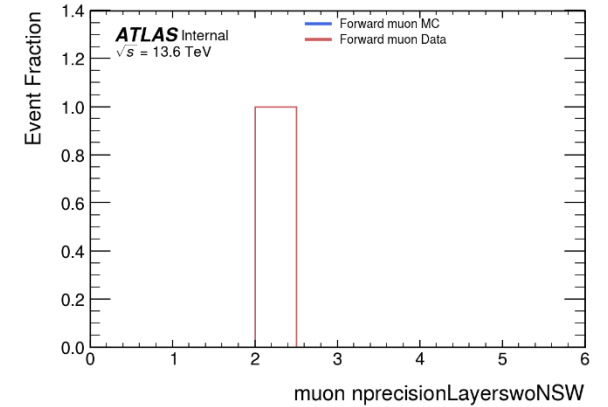
$|\eta| \geq 2.5$



$|\eta| \geq 2.6$



$|\eta| \geq 2.7$



Previous Presentations

- [July 10th 2024](#)
- [July 24th 2024](#)
- [September 18th 2024](#)