

Measuring Anti-Neutron: Tagging and Reconstruction Algorithm for frontier experiments (MANTRA)

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Sanjeeda Bharati Das
Universita di Torino, INFN Sezione di Torino

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NextGenerationEU



Data Samples:

MC:

1. /belle/collection/MC/S16_MC16rd-prompt_4S_ccbar_skim_75000100_v1
2. /belle/collection/MC/S16_MC16rd-prompt_4S_udstau_skim_75000100_v1
3. /belle/collection/MC/S16_MC16rd-prompt_4S_BB_skim_75000100_v1
4. /belle/collection/MC/S16_MC16rd-proc16_4S_ccbar_skim_75000100_v2
5. /belle/collection/MC/S16_MC16rd-proc16_4S_udstau_skim_75000100_v2
6. /belle/collection/MC/S16_MC16rd-proc16_4S_BB_skim_75000100_v2

Data:

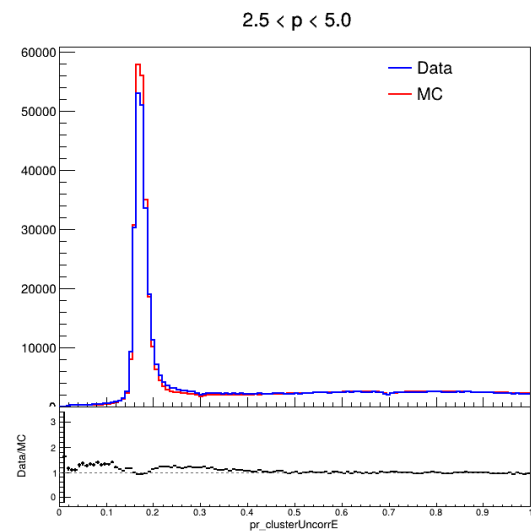
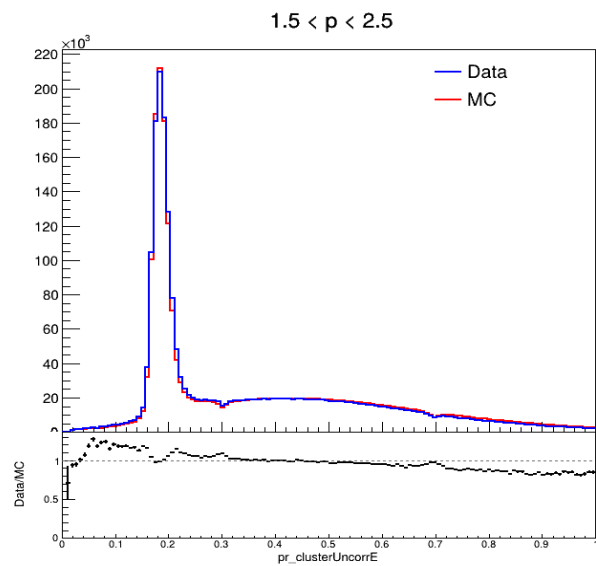
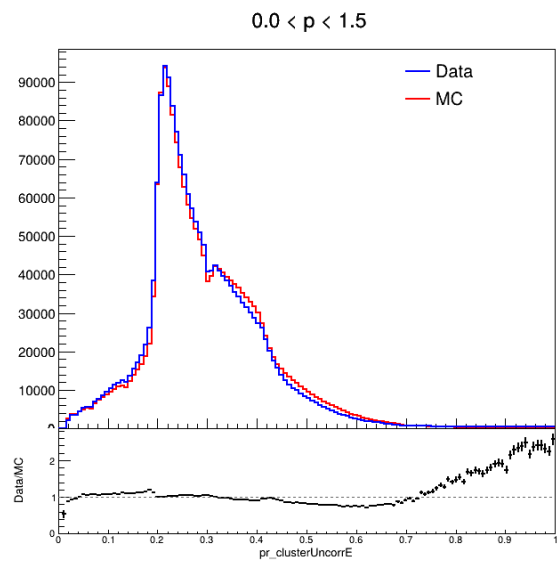
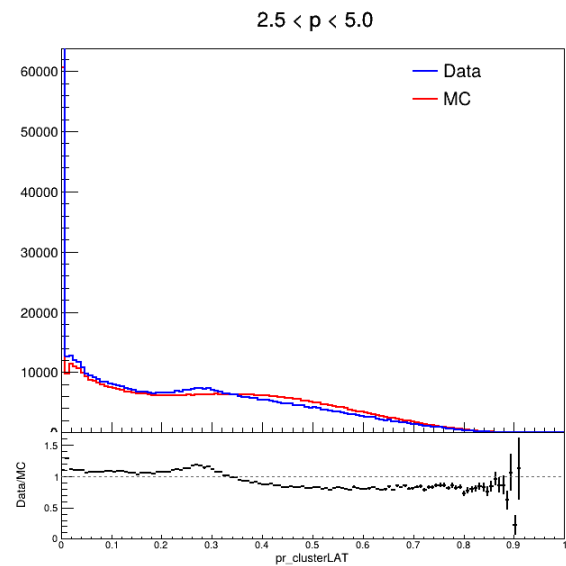
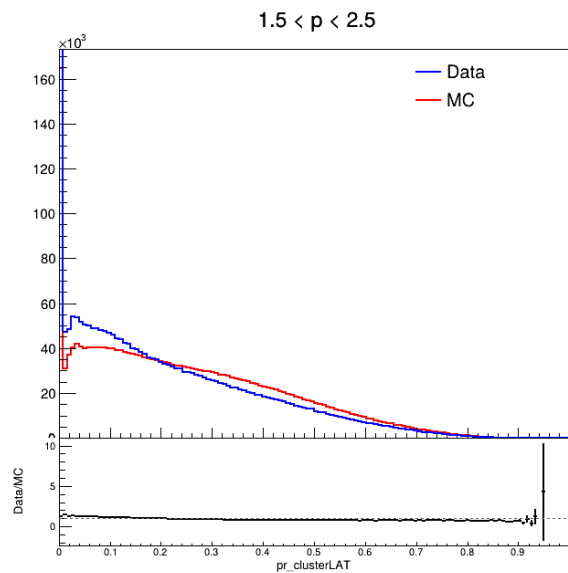
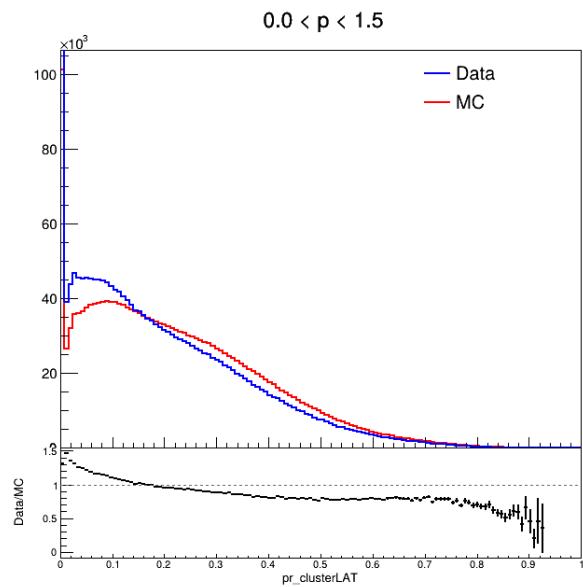
7. /belle/collection/Data/S16_prompt_4S_skim_75000100_v1
8. /belle/collection/Data/S16_proc16_4S_skim_75000100_v2

Selection Criteria:

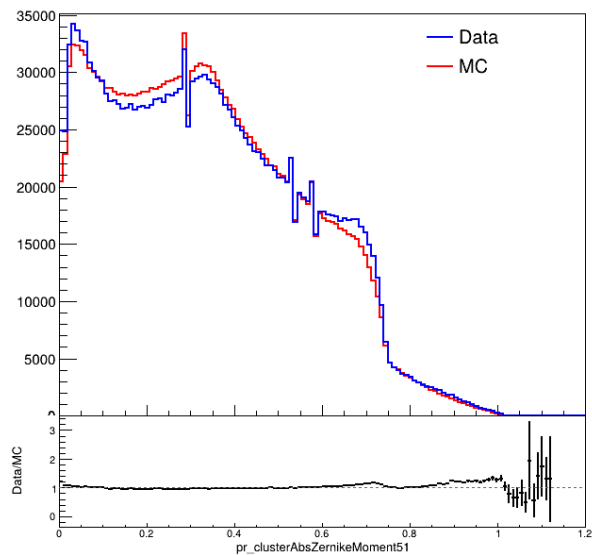
```
def Lambda0_skim(output_list="Lambda0:skimoff", input_list="Lambda0:merged", path=None):
    skimCuts = "cosAlpha > 0.99"
    skimCuts += " and 0.6 < momRatio_protonLambda < 1."
    skimCuts += " and flightSignificance > 3."
    skimCuts += " and protonID_proton > 0.1"
    ma.cutAndCopyList(output_list, input_list, cut=skimCuts, path=main)

ma.applyEventCuts('eventExtraInfo(passes_InclusiveLambda)==1', path=main)
stdLambdas(prioritiseV0=True, fitter='TreeFit', path=main)
Lambda0_skim(output_list="Lambda0:cut", path=main)
if args.isMC :
    ma.matchMCTruth(list_name='Lambda0:cut', path=main)
```

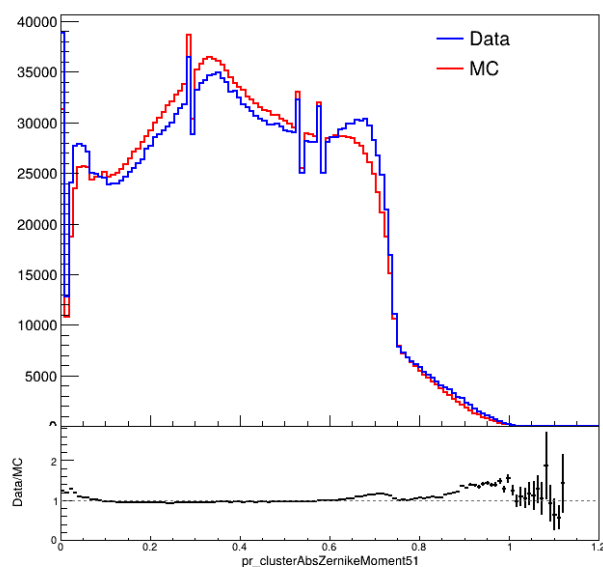
protons



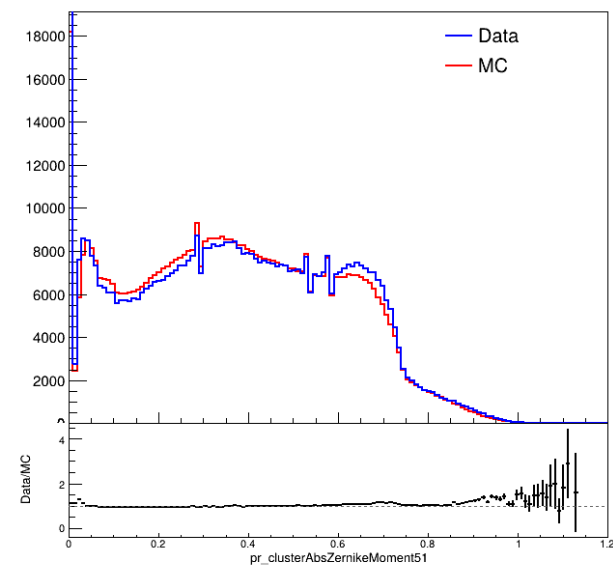
$0.0 < p < 1.5$



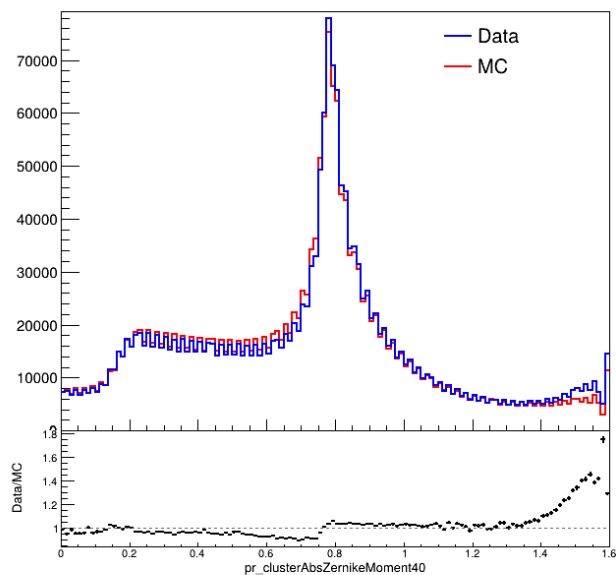
$1.5 < p < 2.5$



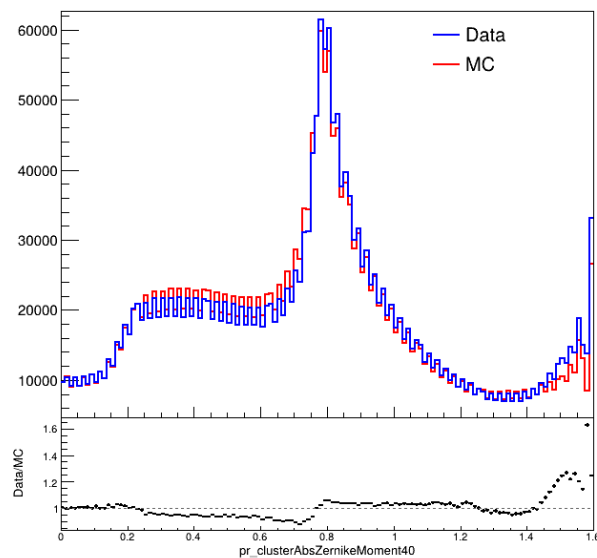
$2.5 < p < 5.0$



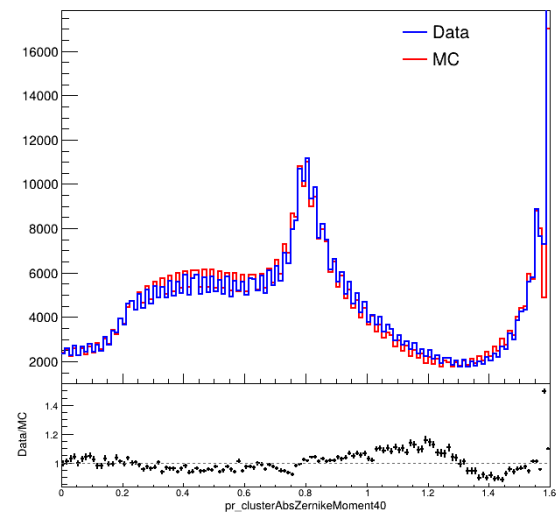
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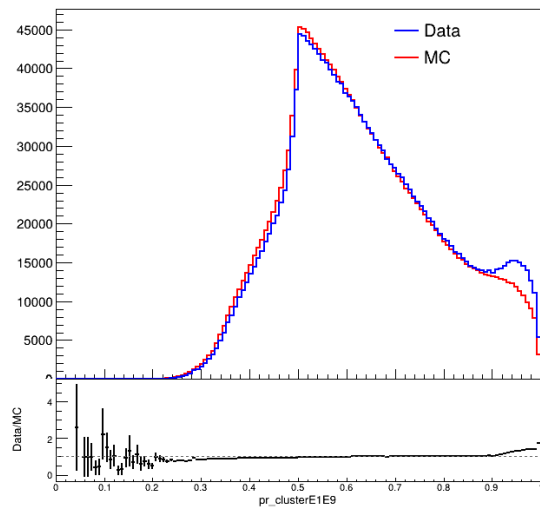
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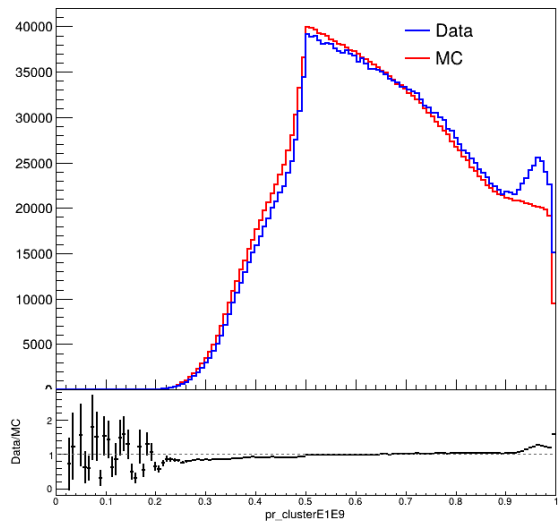
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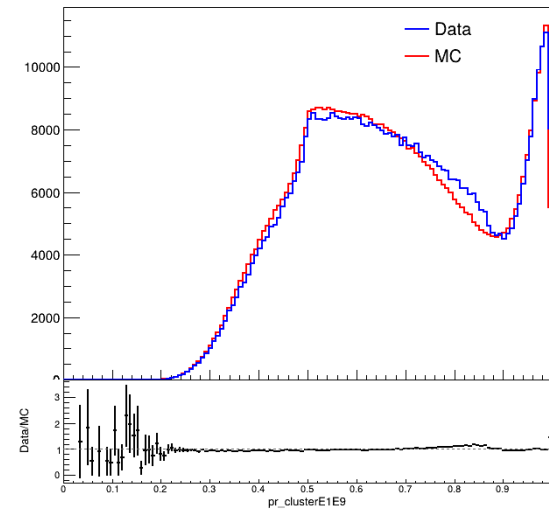
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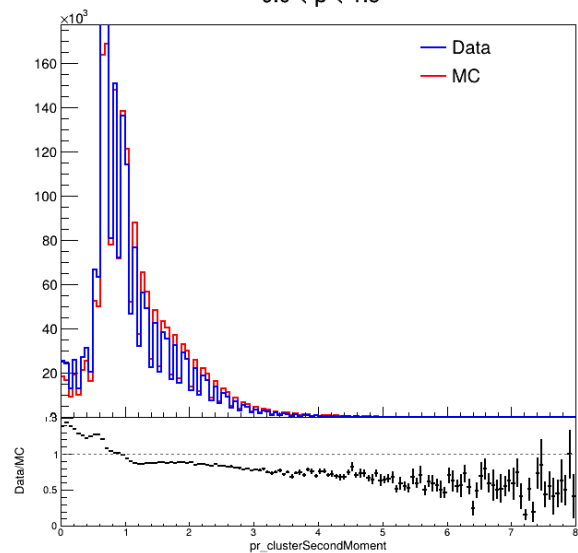
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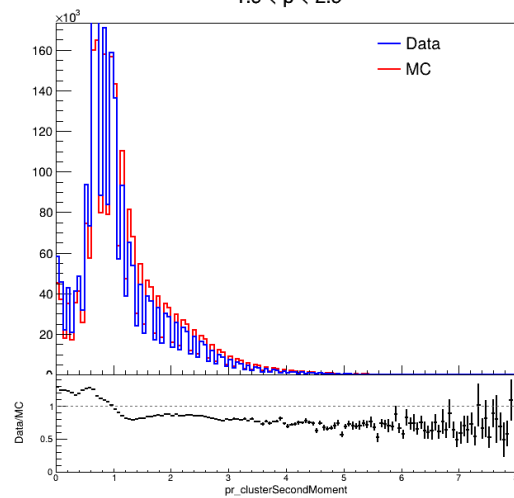
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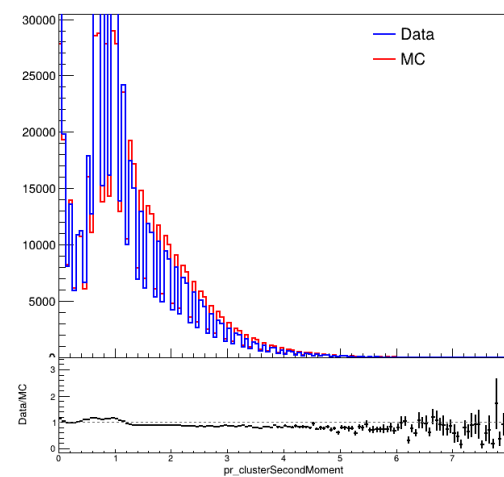
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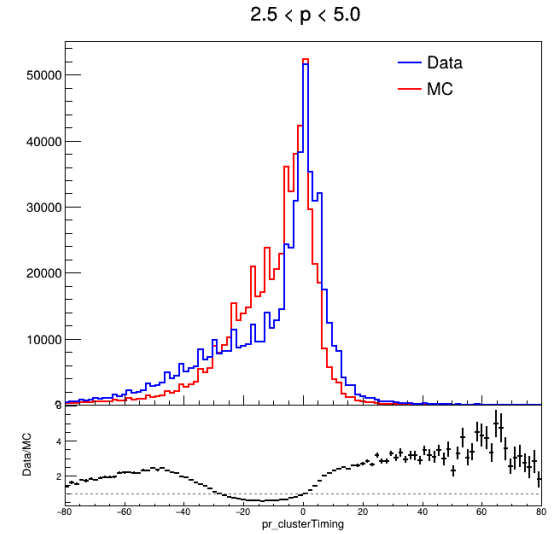
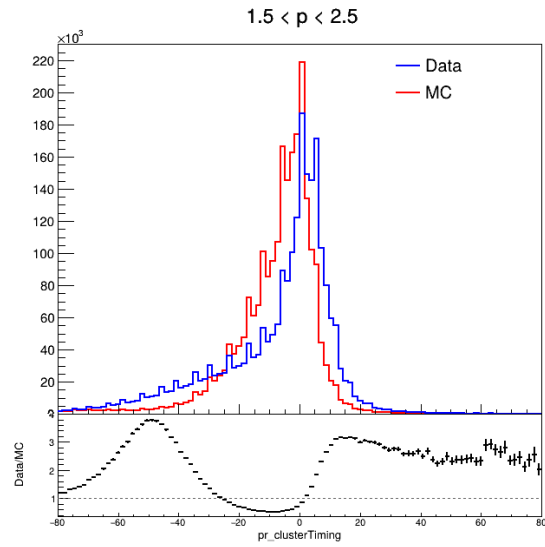
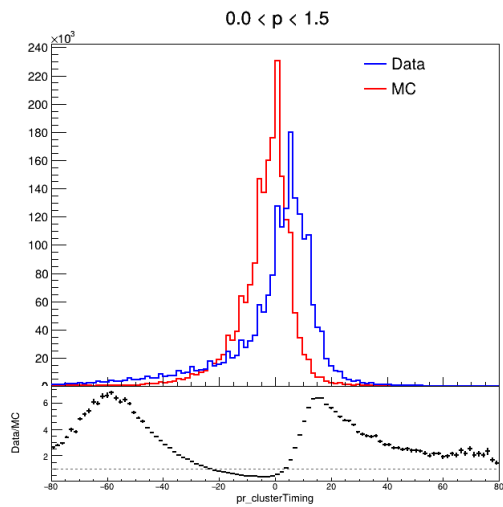
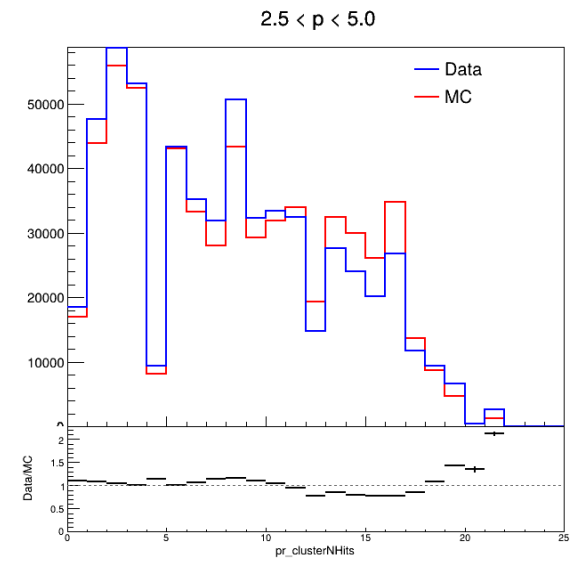
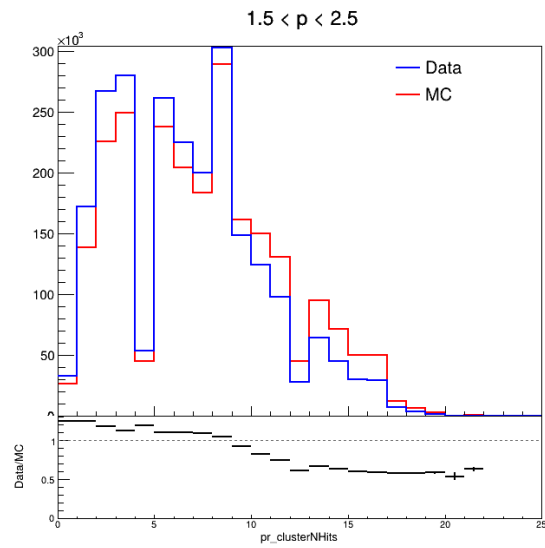
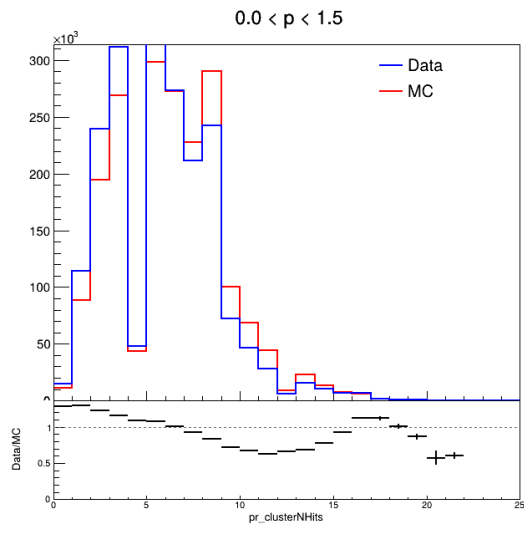


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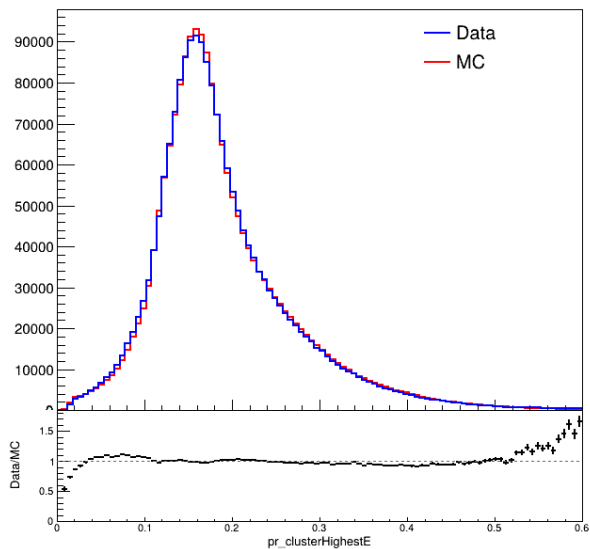


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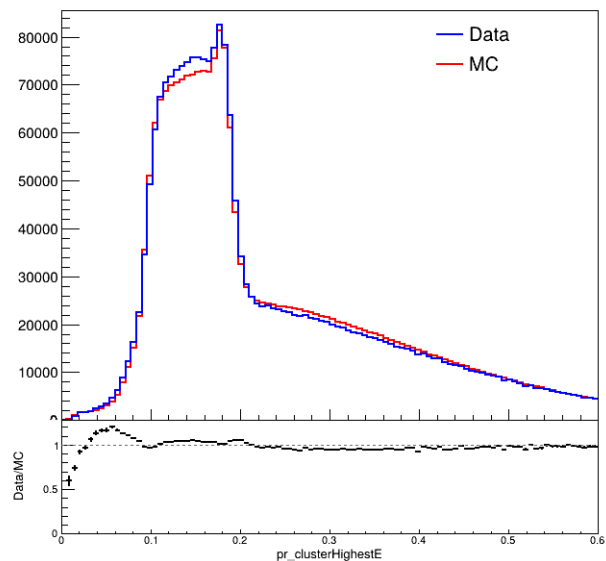




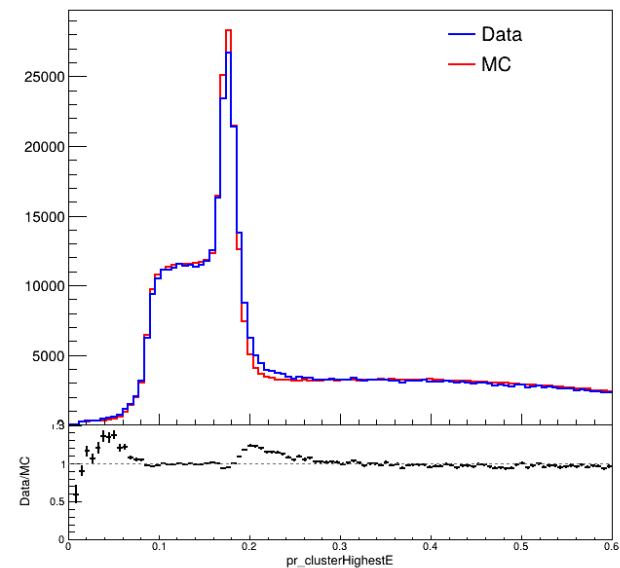
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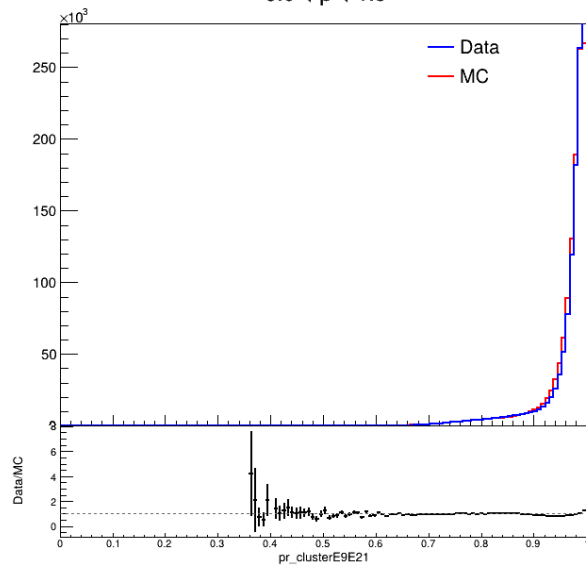
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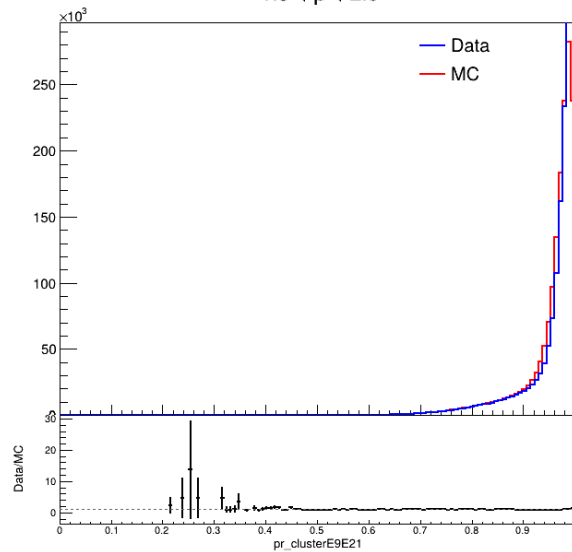
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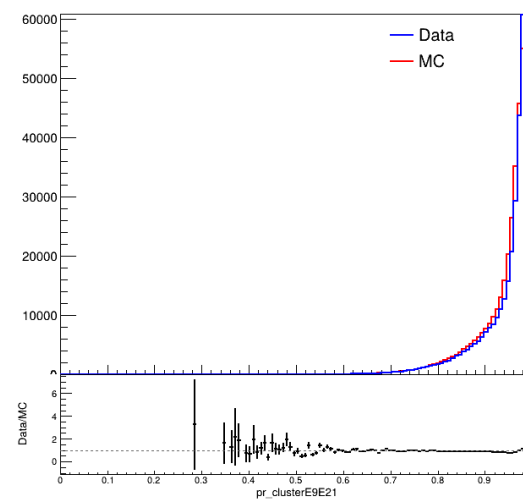
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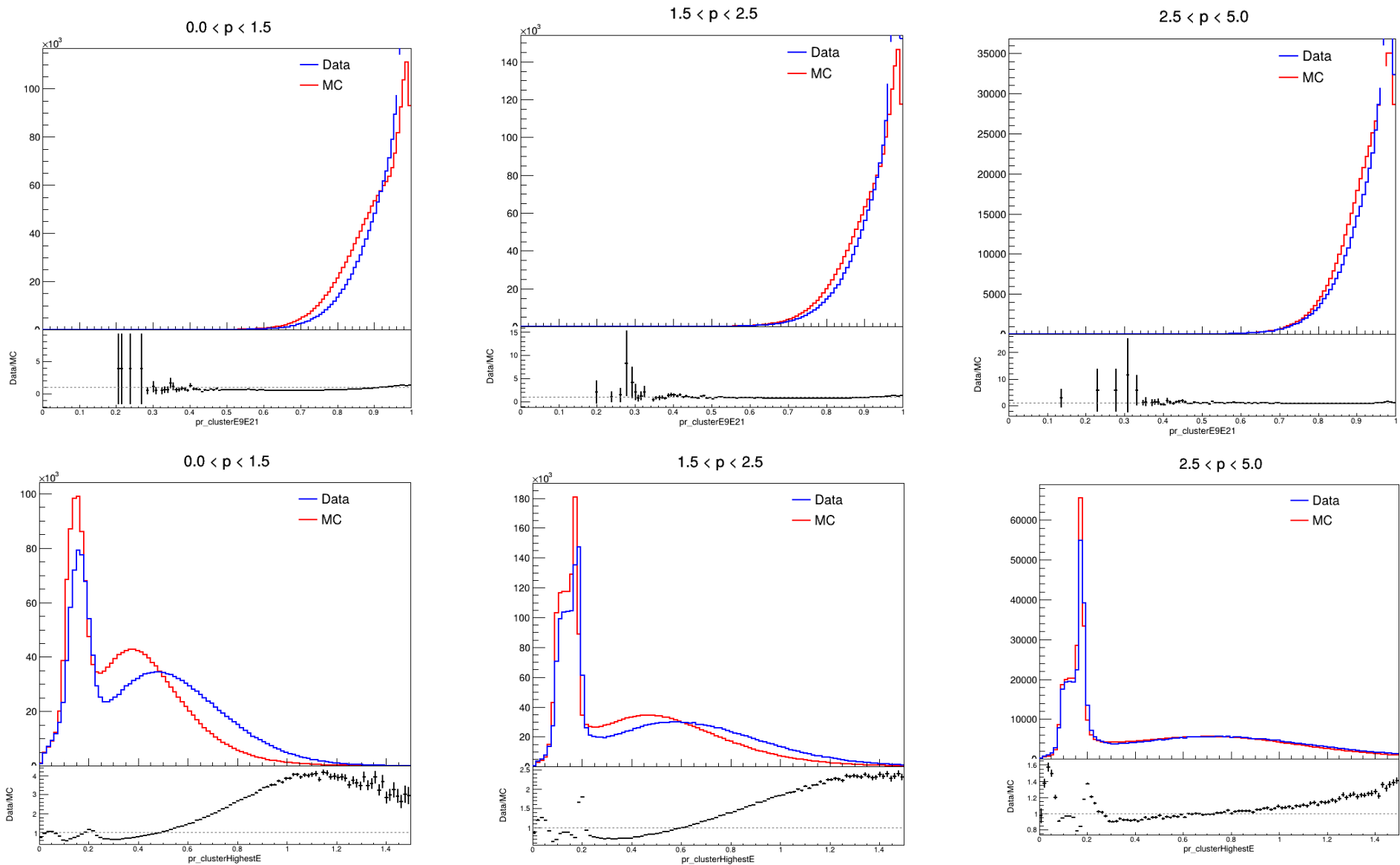
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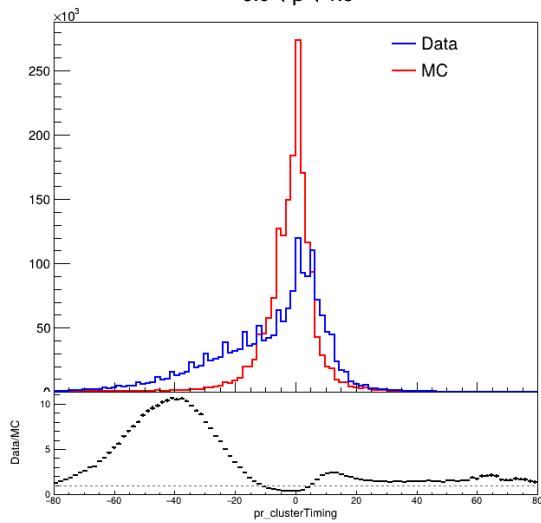
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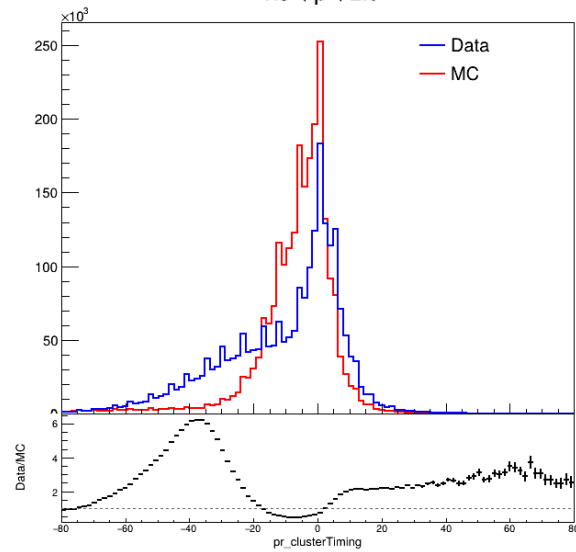
Anti protons



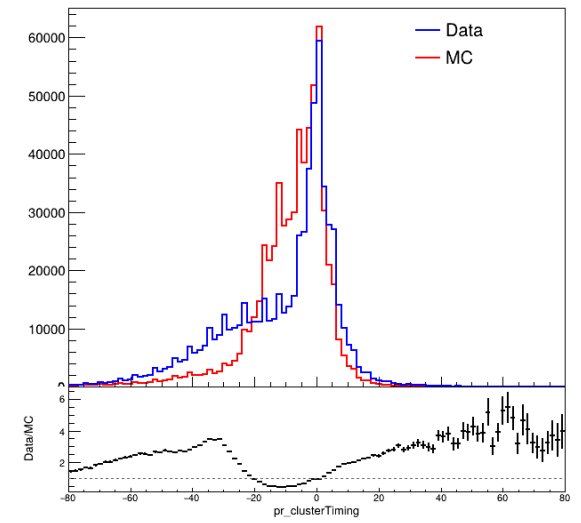
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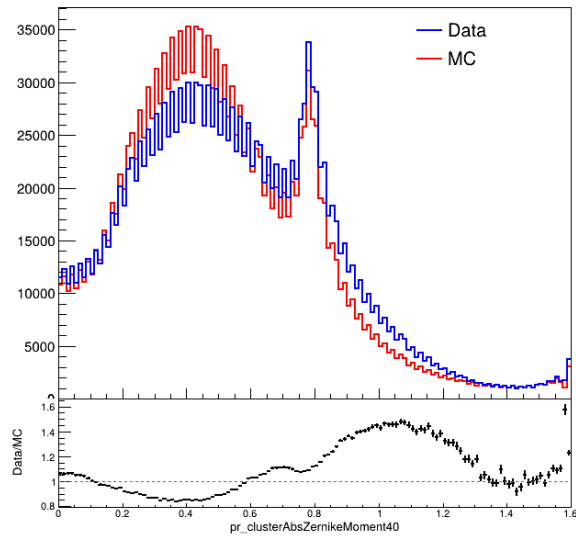
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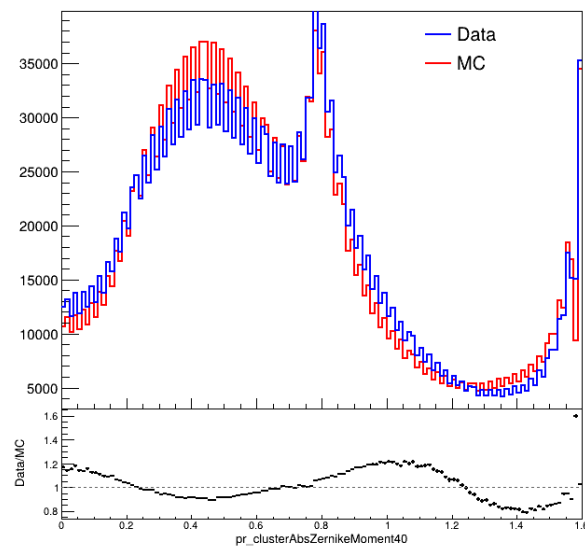
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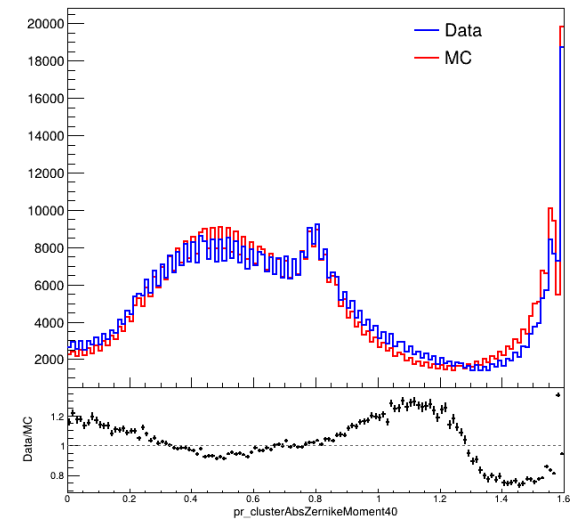
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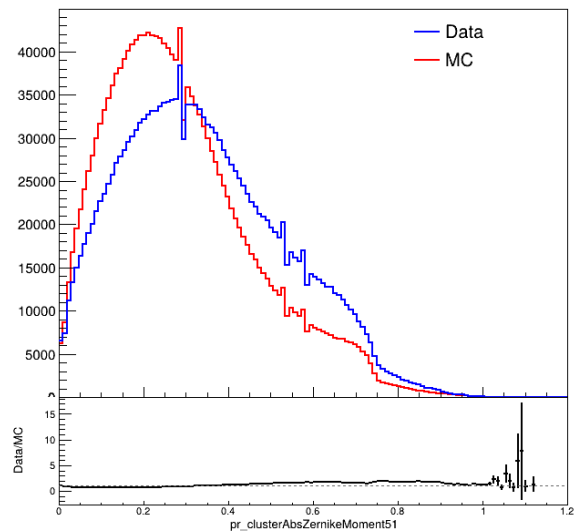
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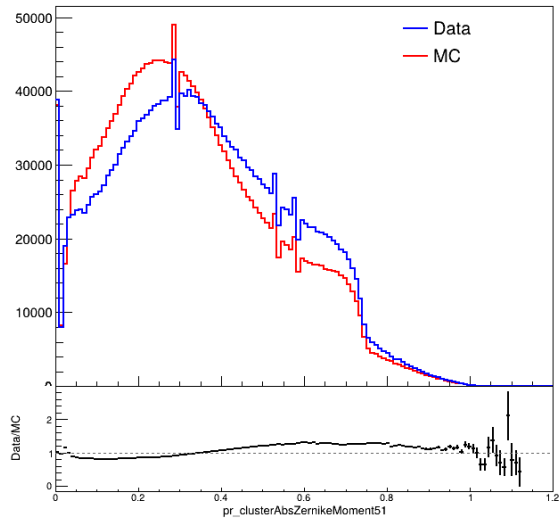
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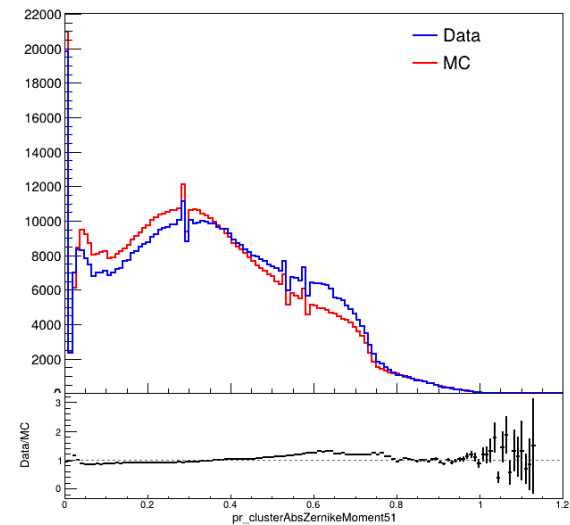
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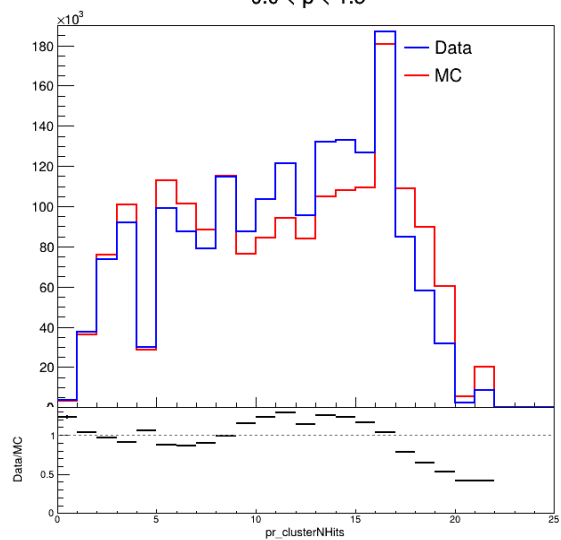
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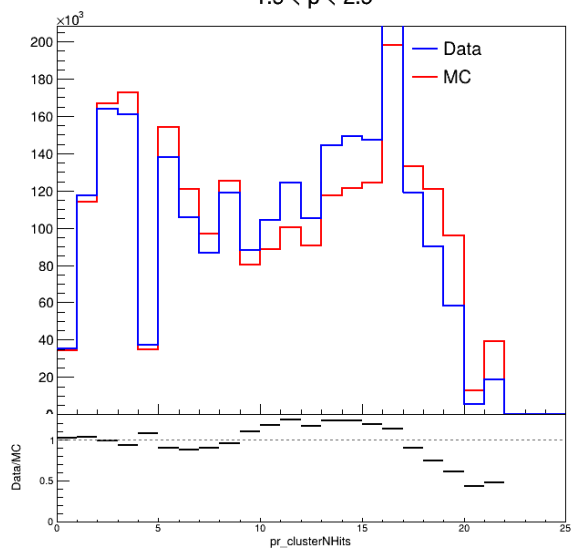
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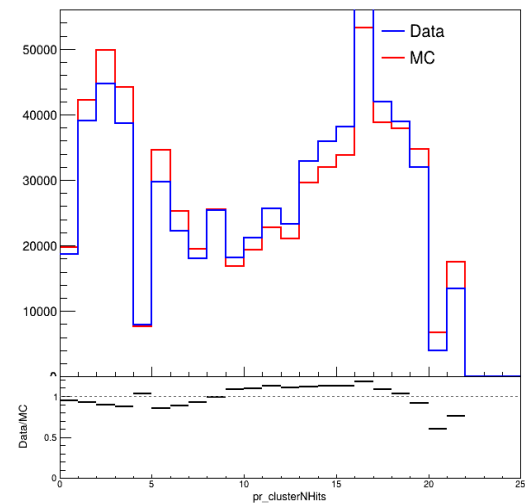
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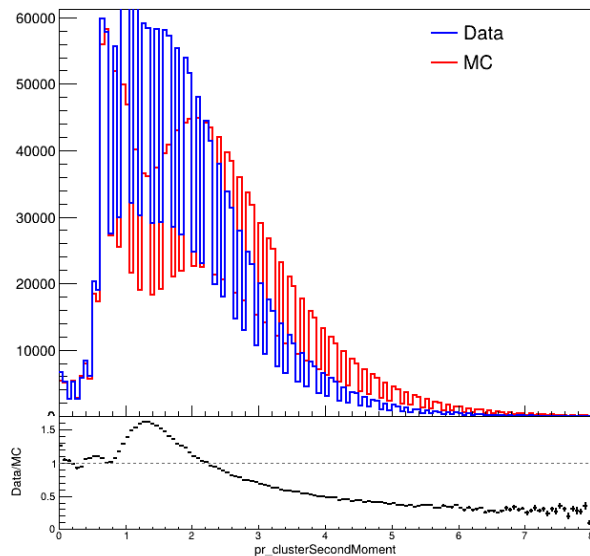
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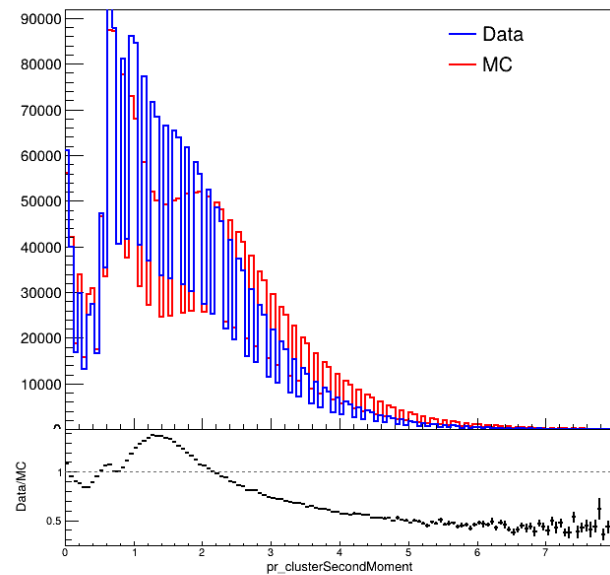
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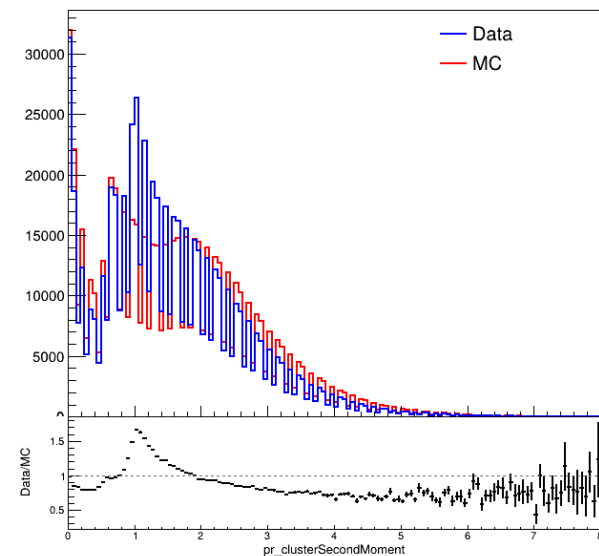
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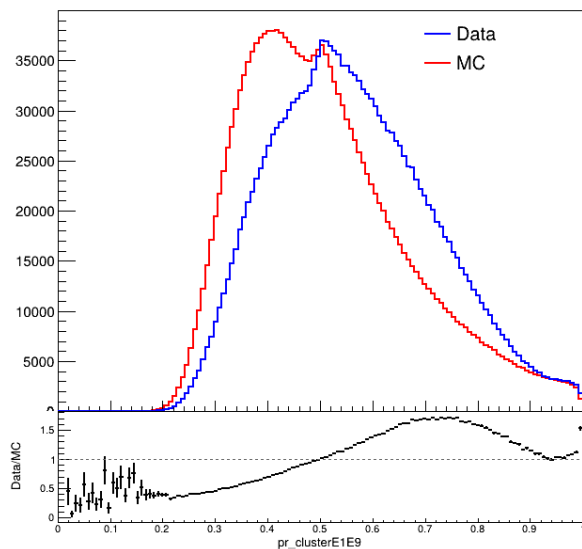
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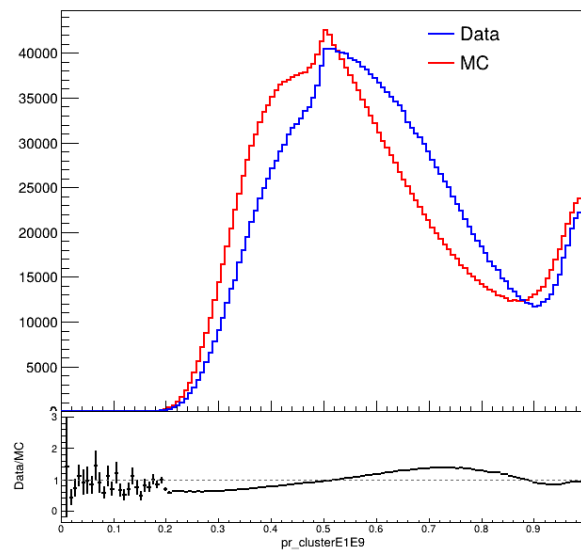
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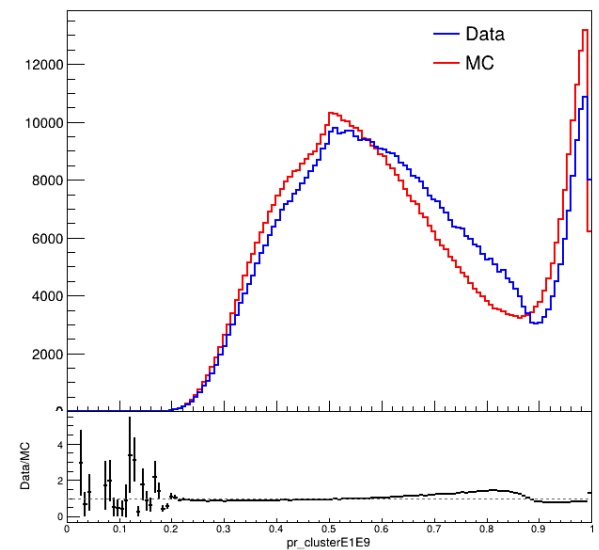
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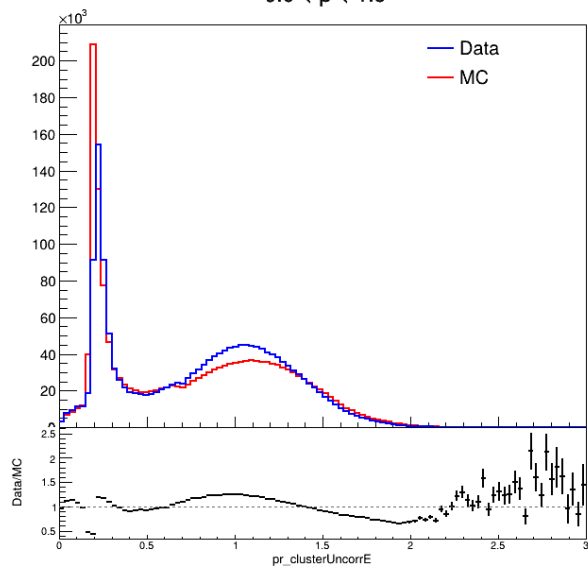
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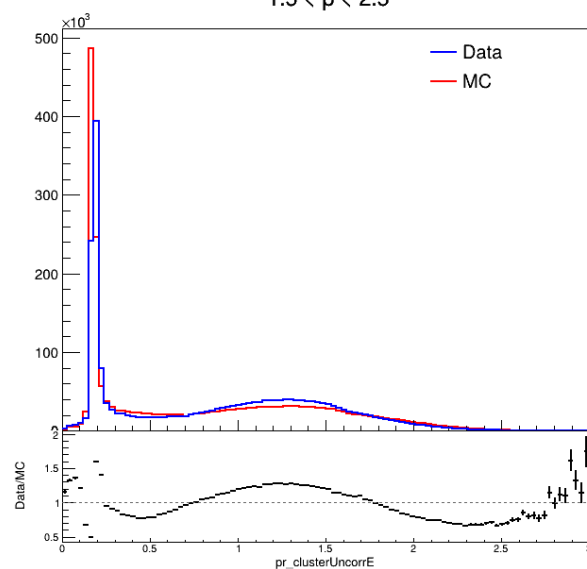
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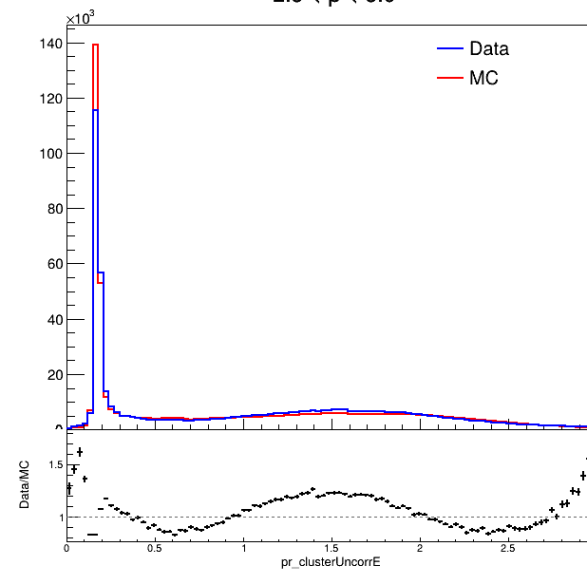
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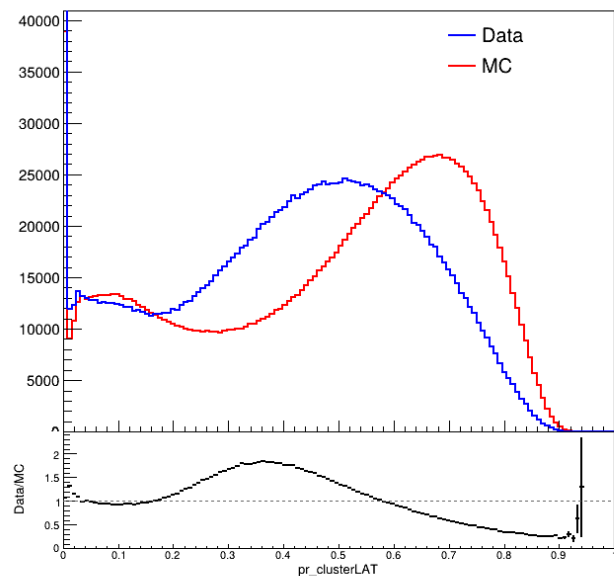
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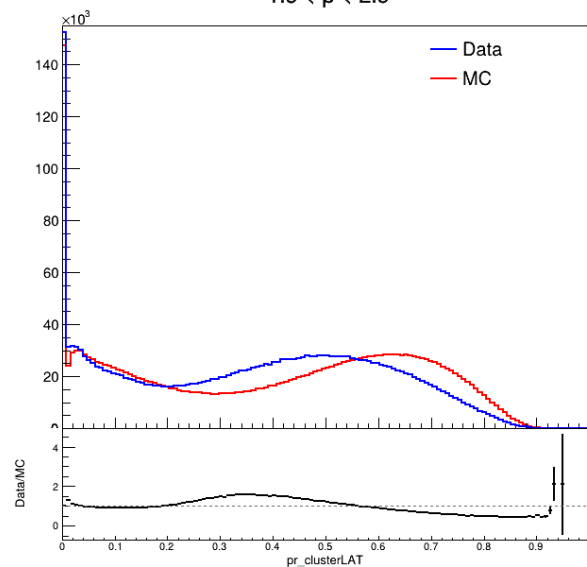
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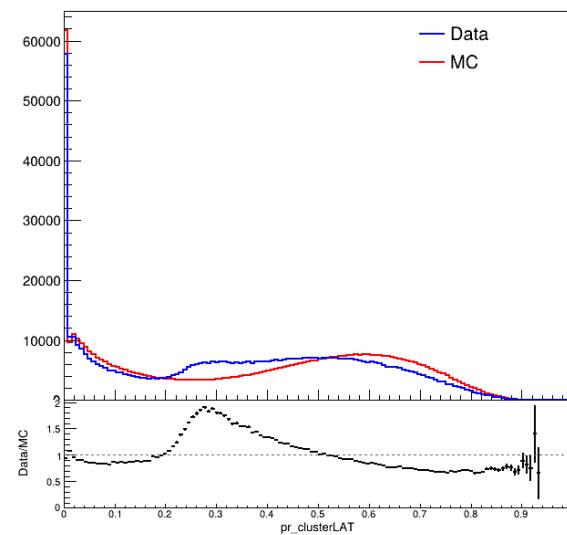
$0.0 < p < 1.5$



$1.5 < p < 2.5$

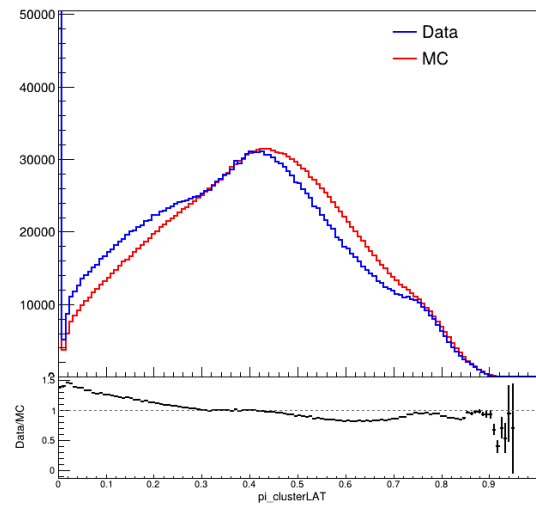


$2.5 < p < 5.0$

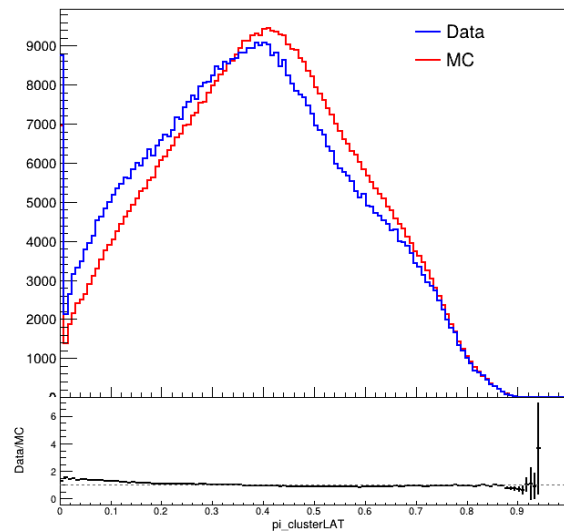


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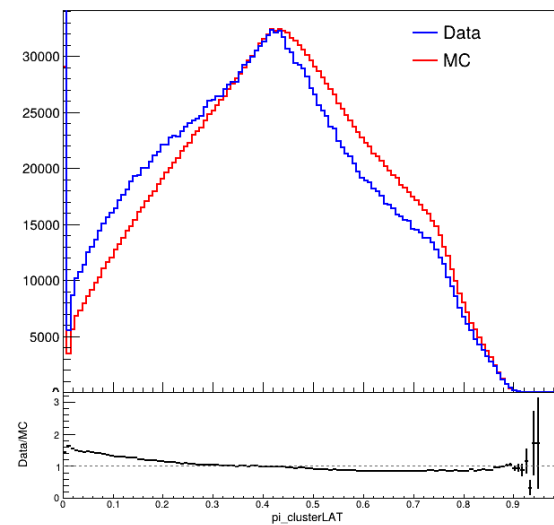
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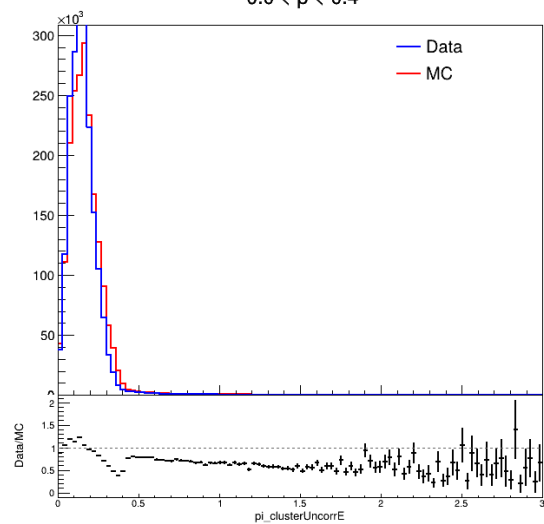
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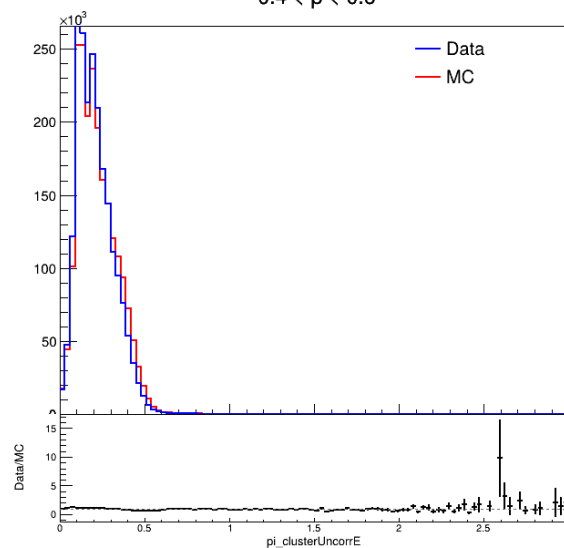
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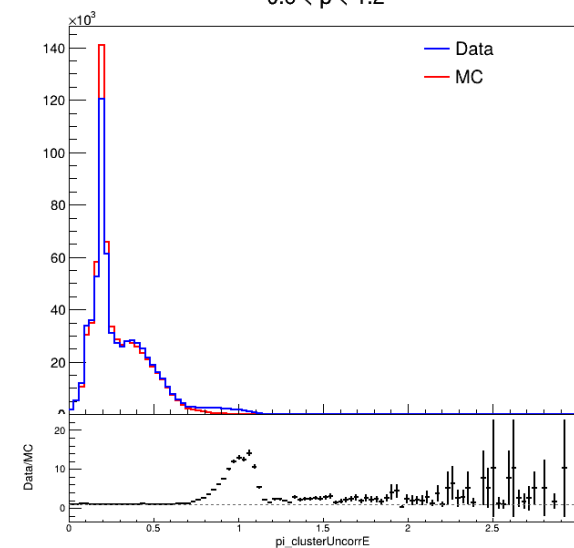
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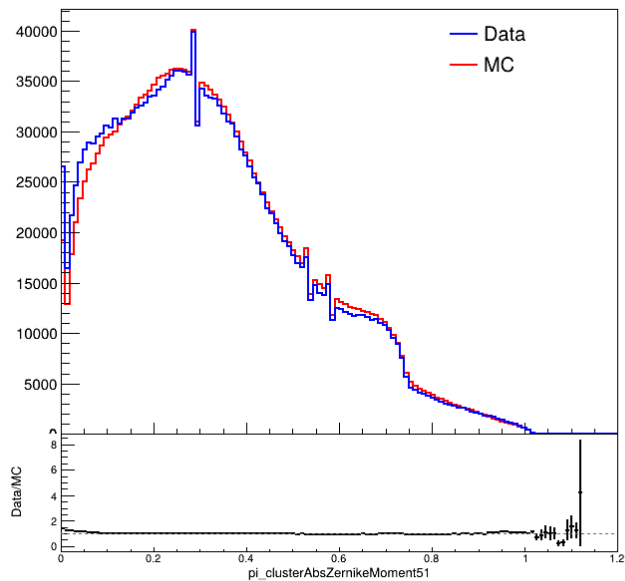
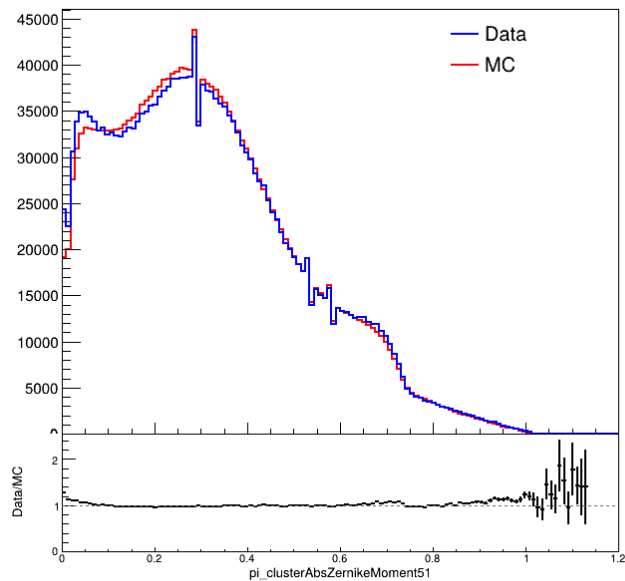
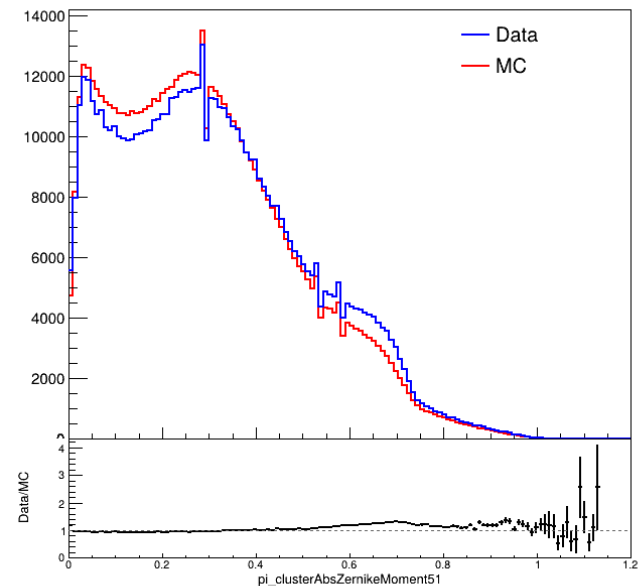
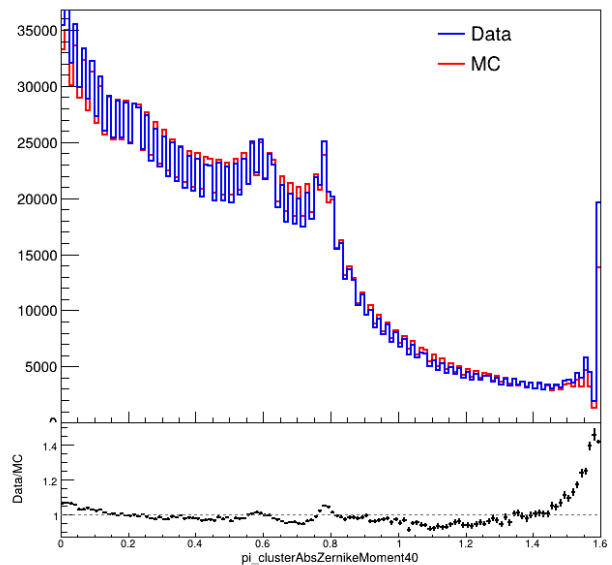
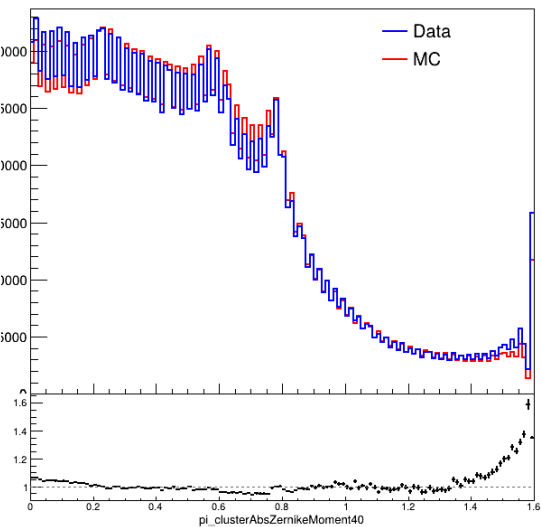
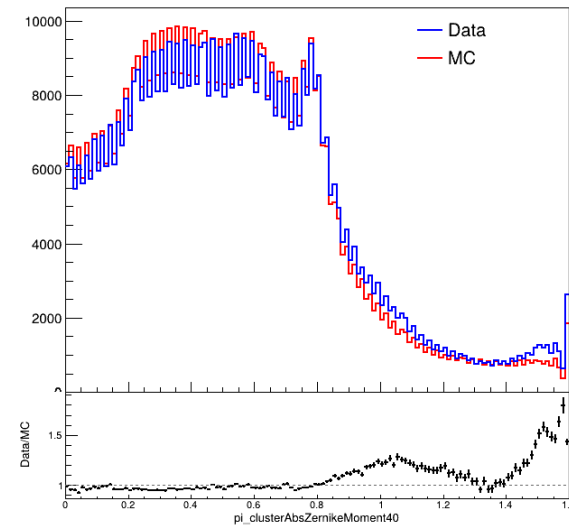


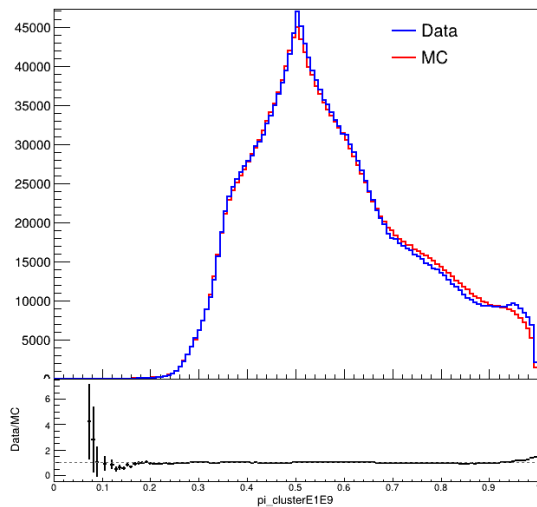
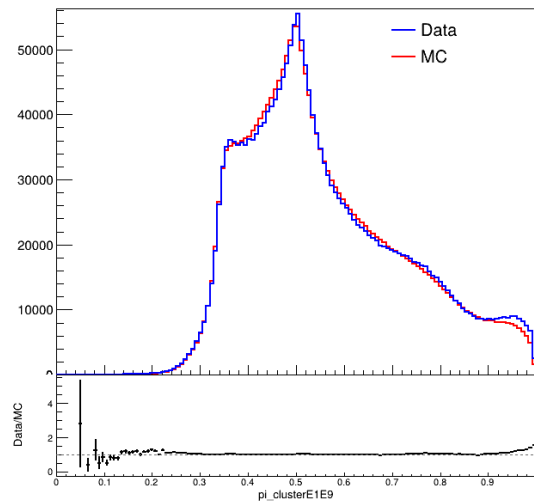
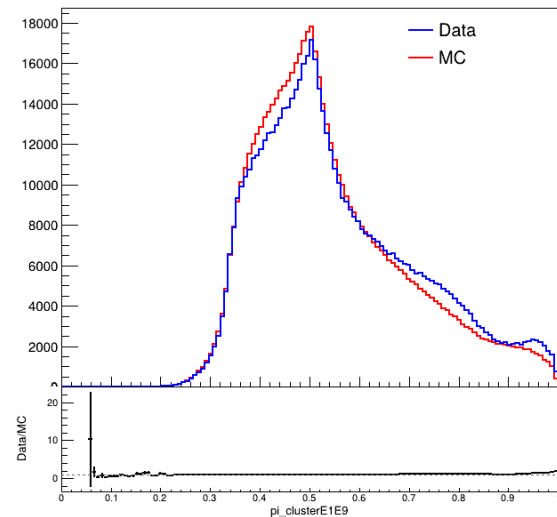
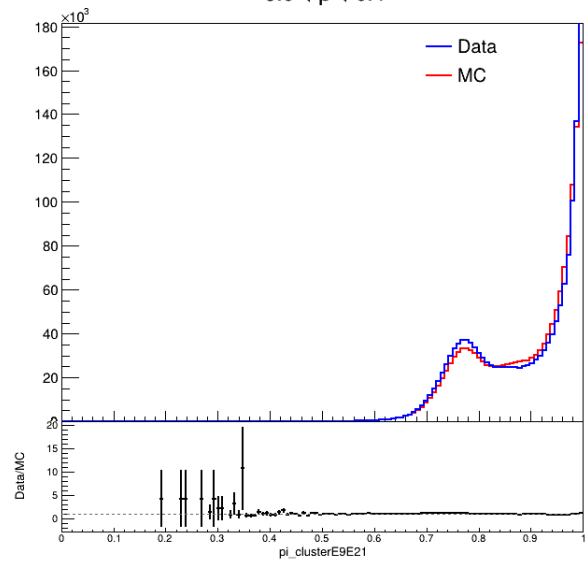
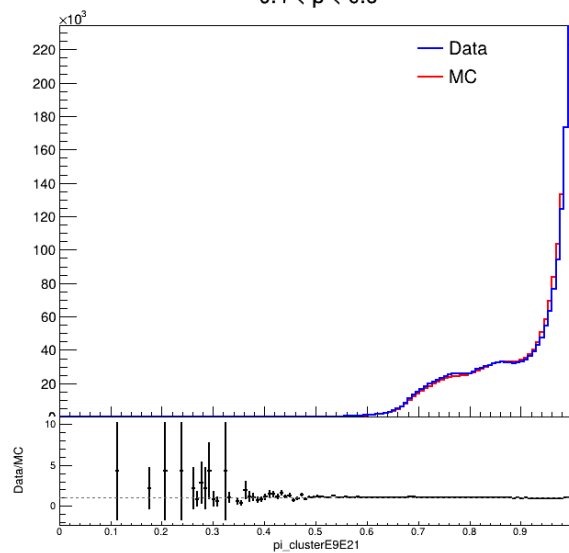
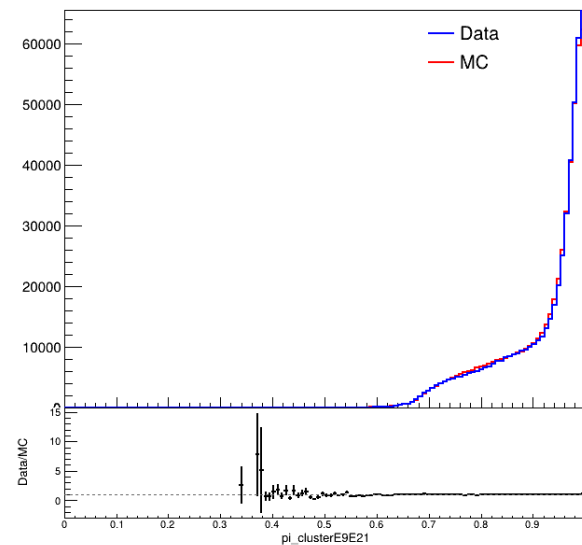
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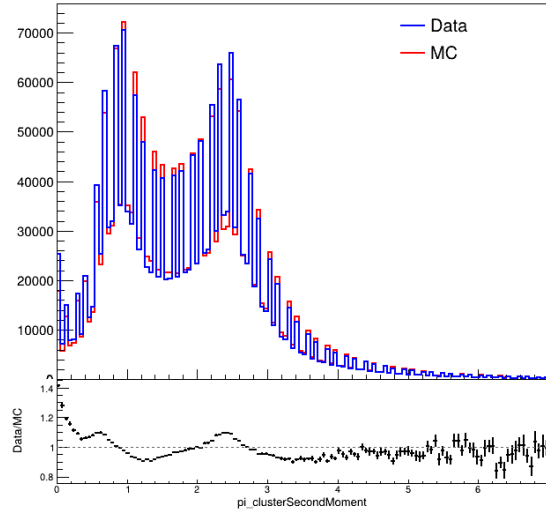
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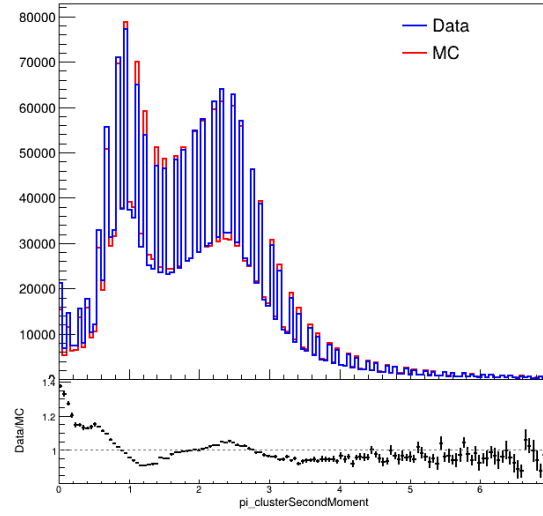
$0.0 < p < 0.4$  $0.4 < p < 0.6$  $0.6 < p < 1.2$  $0.0 < p < 0.4$  $0.4 < p < 0.6$  $0.6 < p < 1.2$ 

$0.0 < p < 0.4$  $0.4 < p < 0.6$  $0.6 < p < 1.2$  $0.0 < p < 0.4$  $0.4 < p < 0.6$  $0.6 < p < 1.2$ 

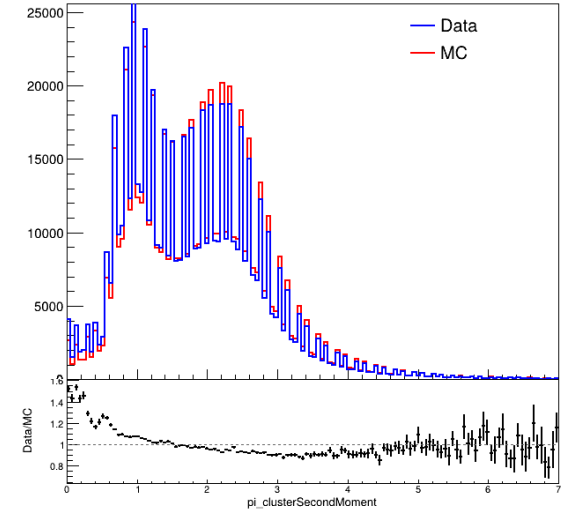
$0.0 < p < 0.4$



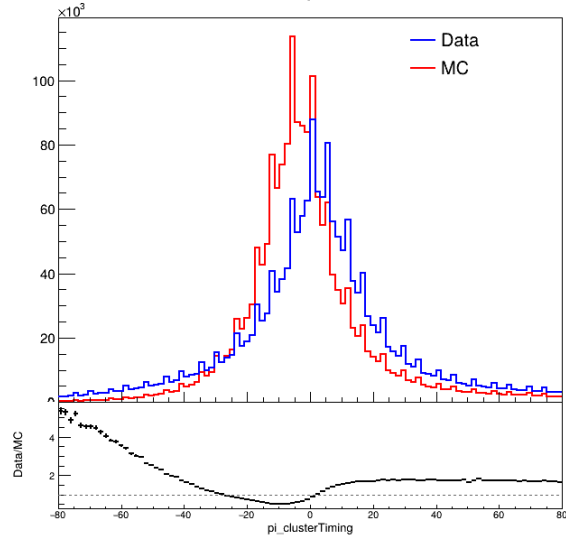
$0.4 < p < 0.6$



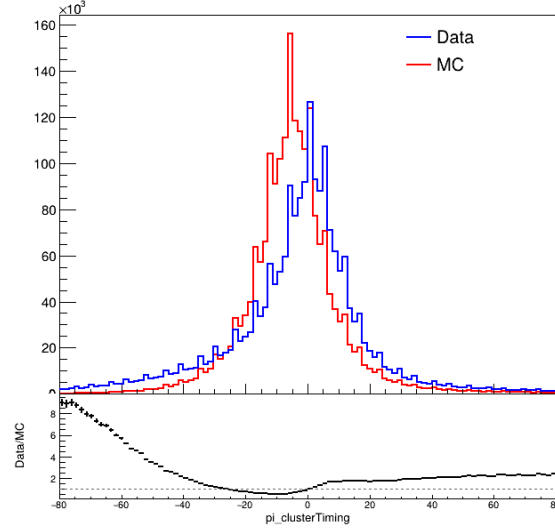
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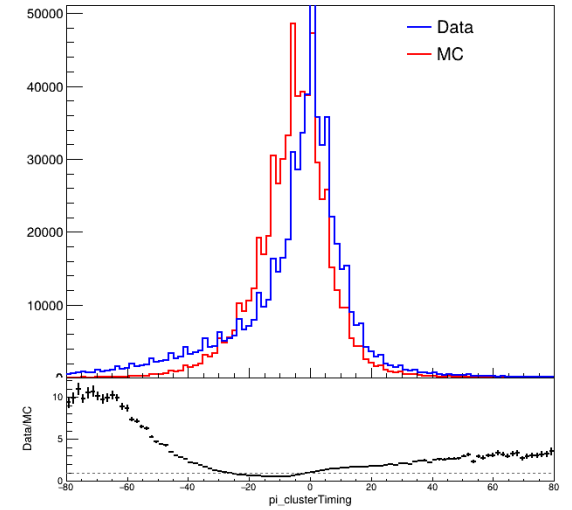
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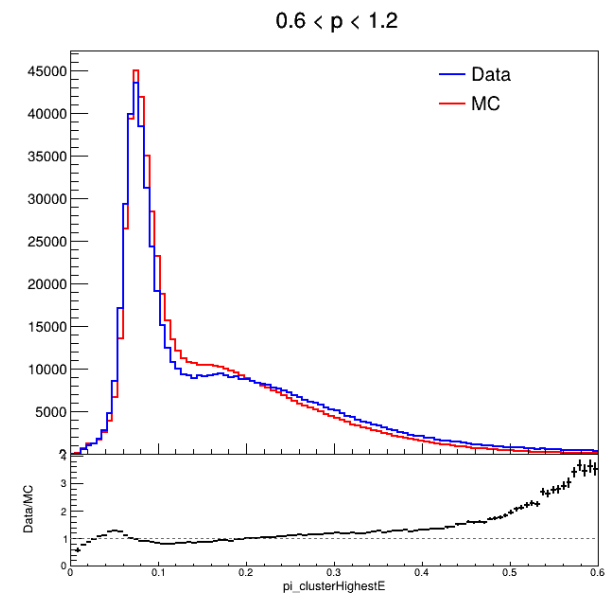
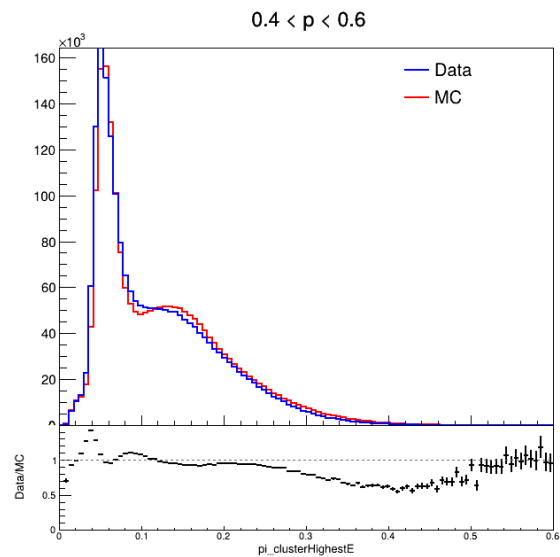
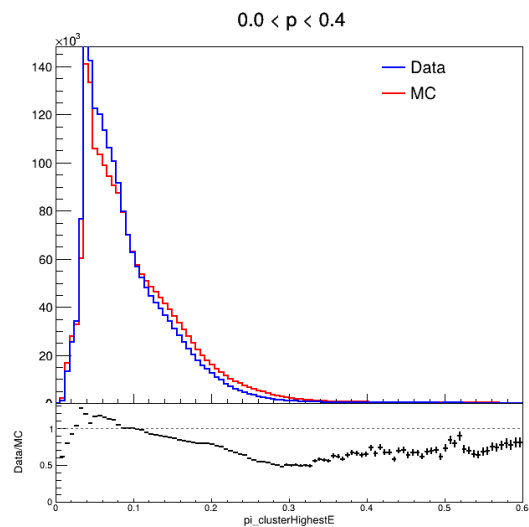
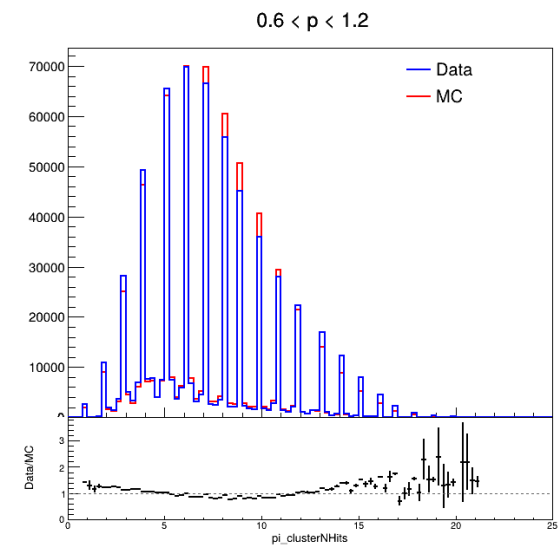
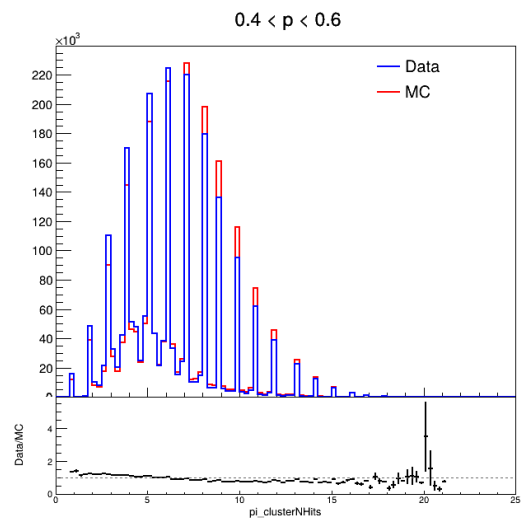
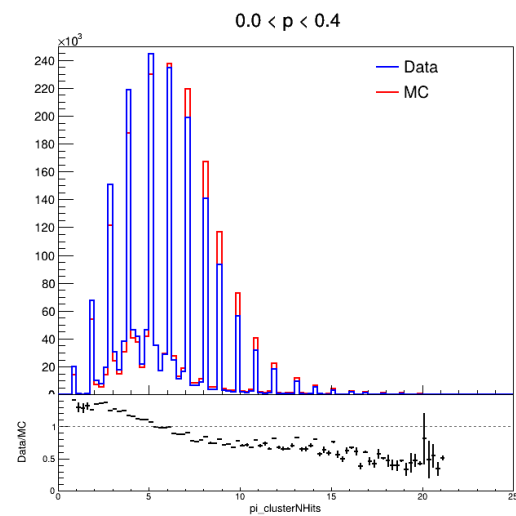


$0.4 < p < 0.6$

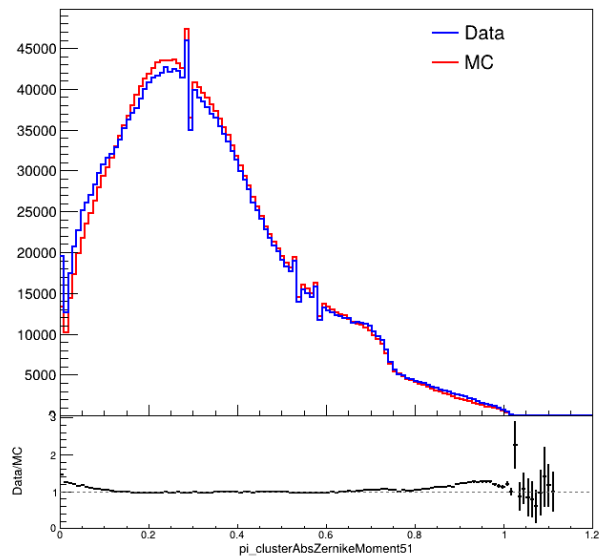
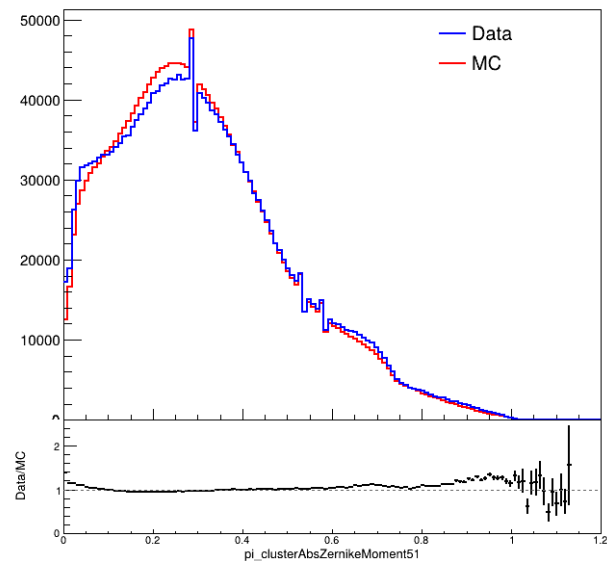
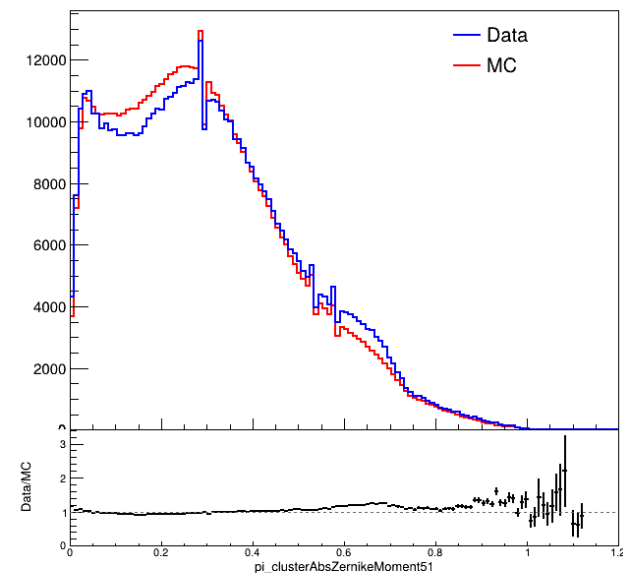
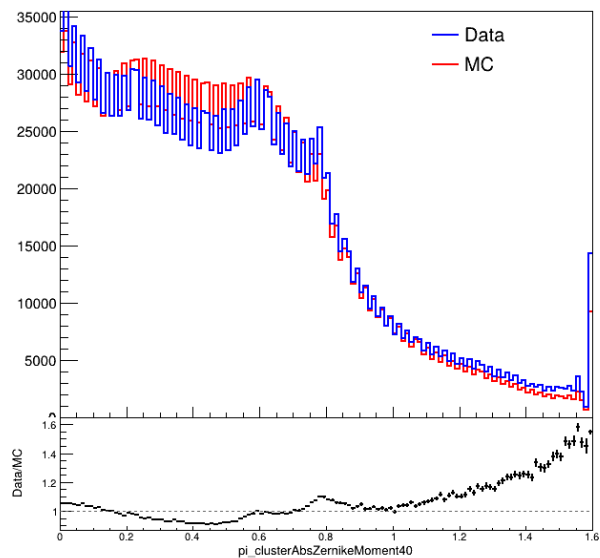
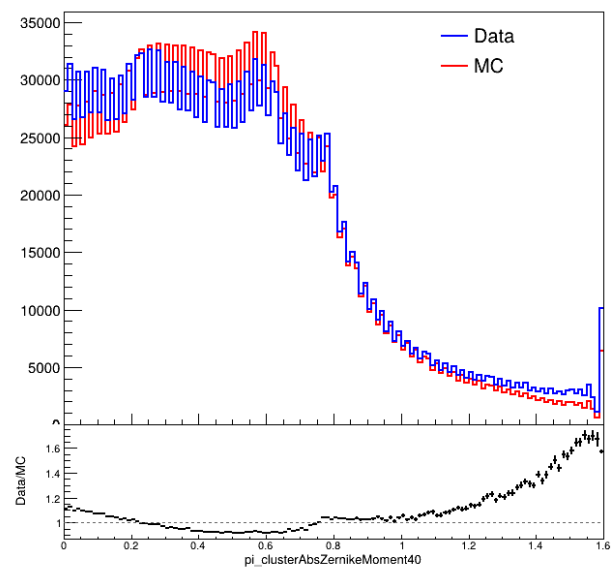
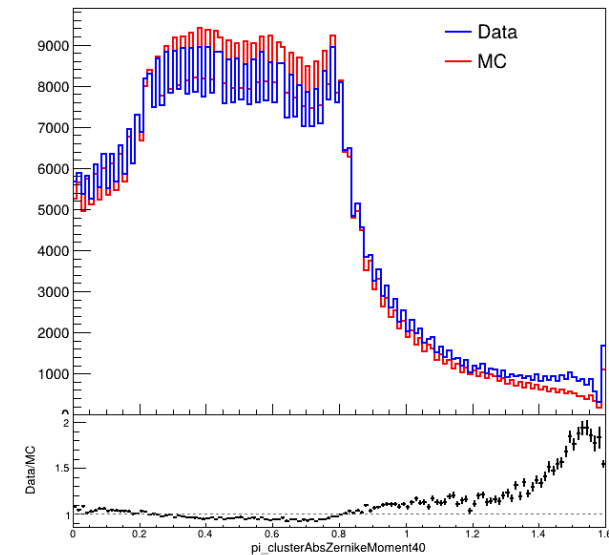


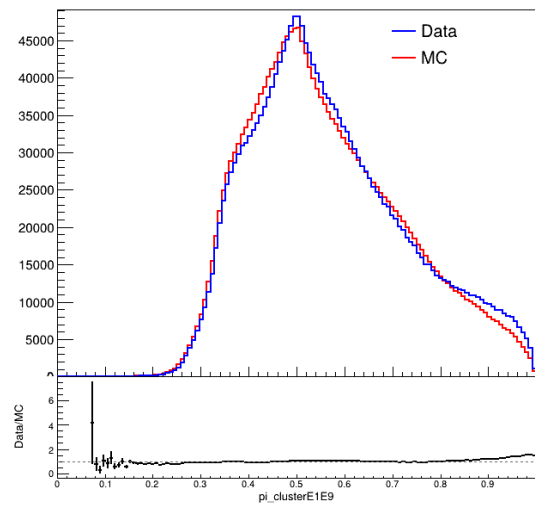
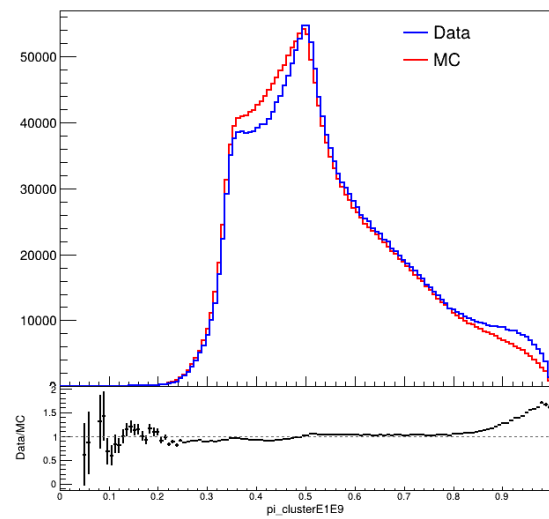
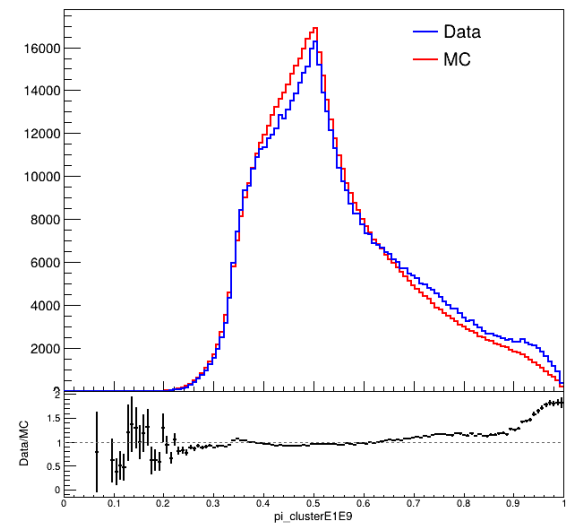
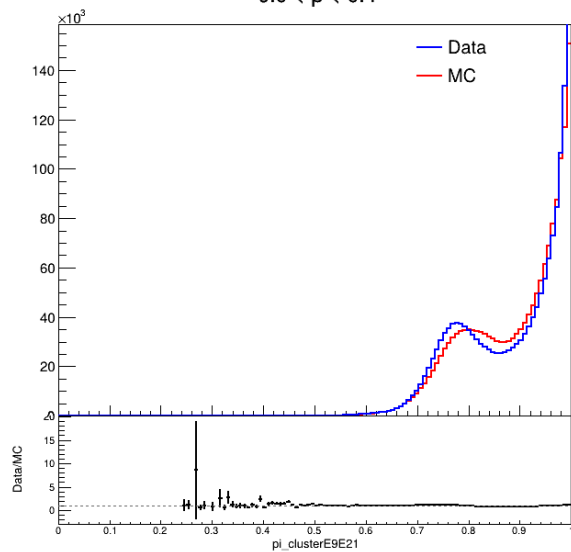
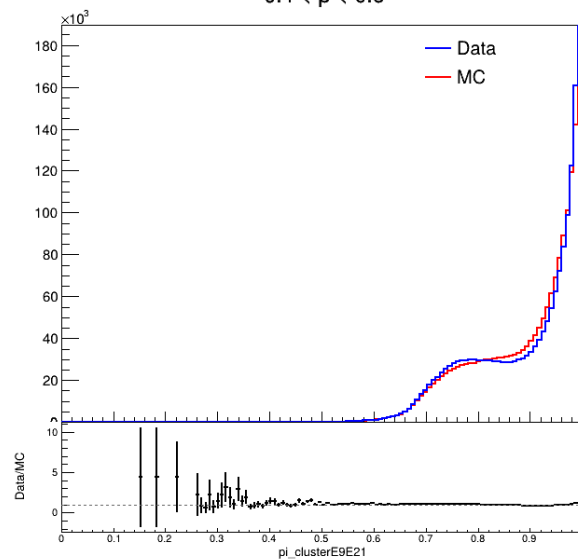
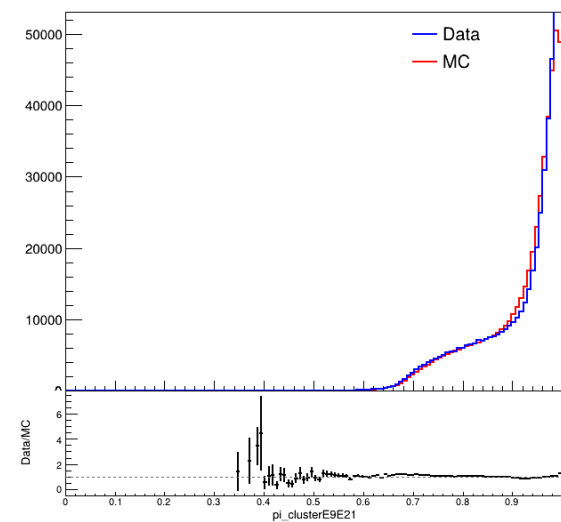
$0.6 < p < 1.2$

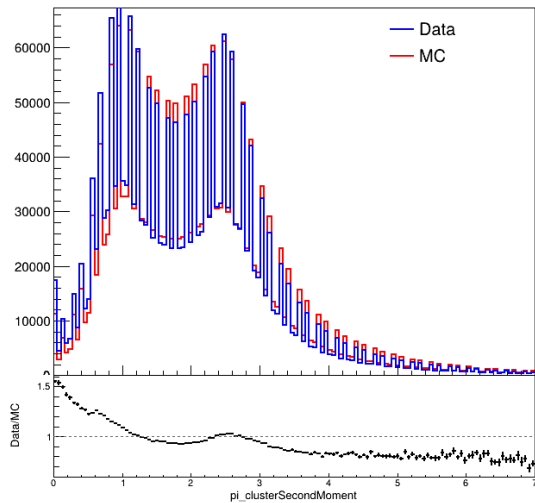
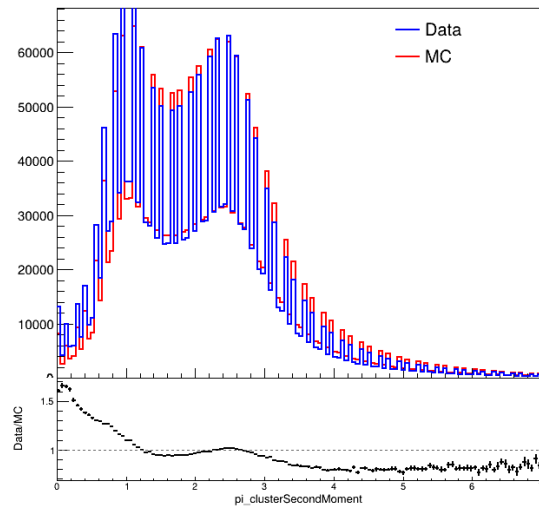
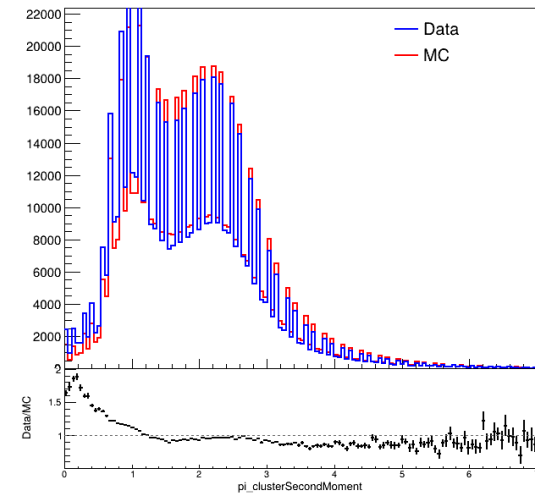
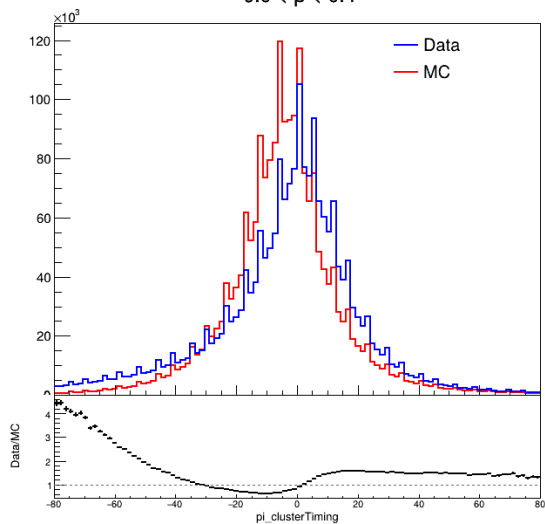
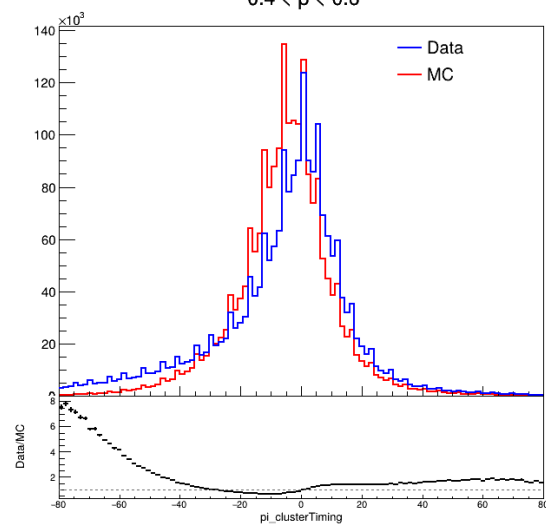
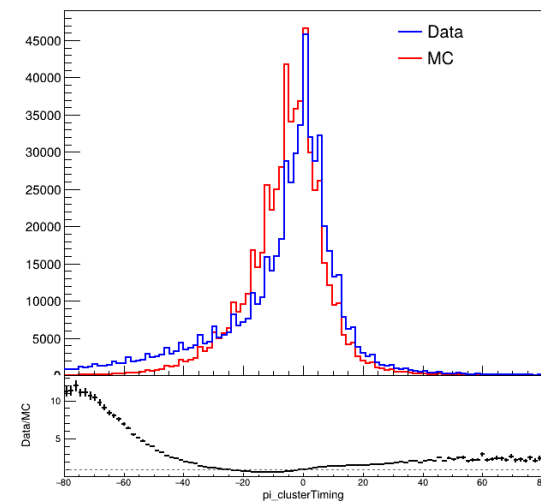


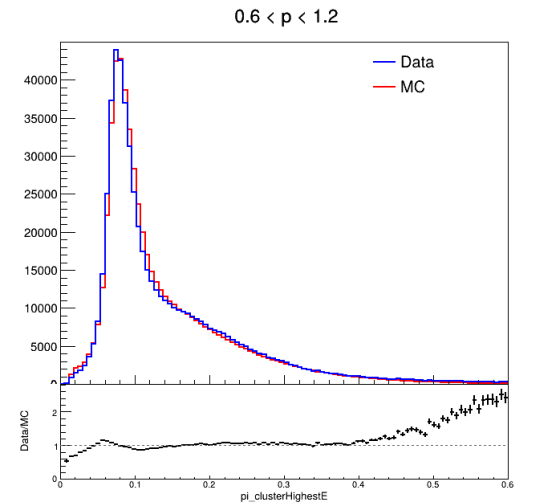
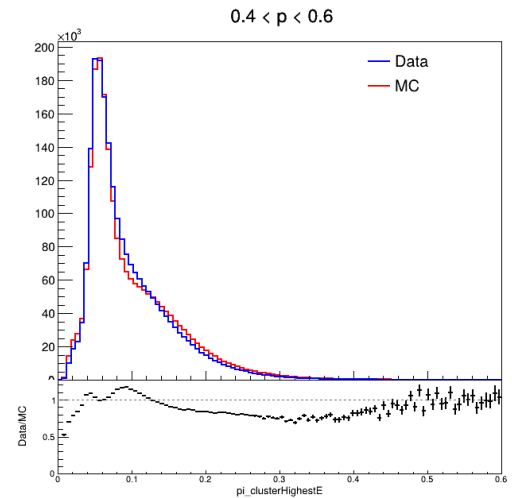
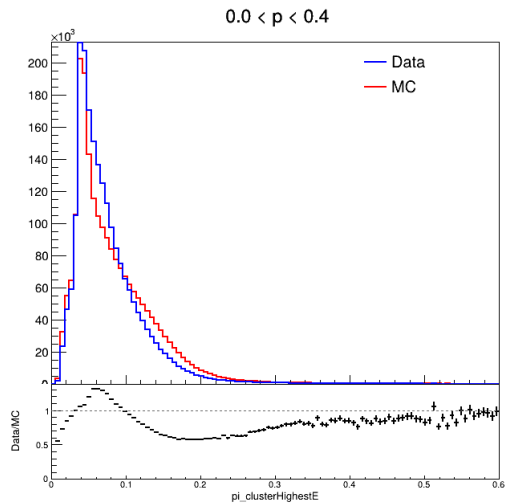
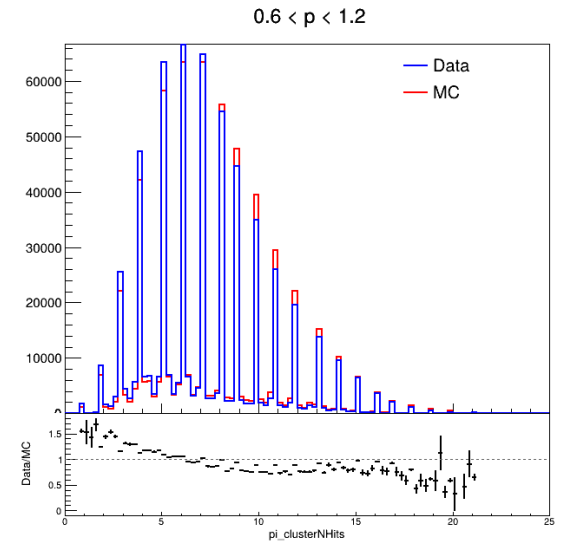
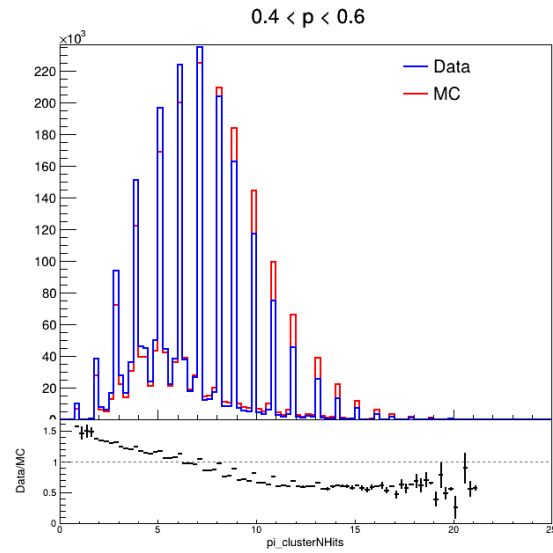
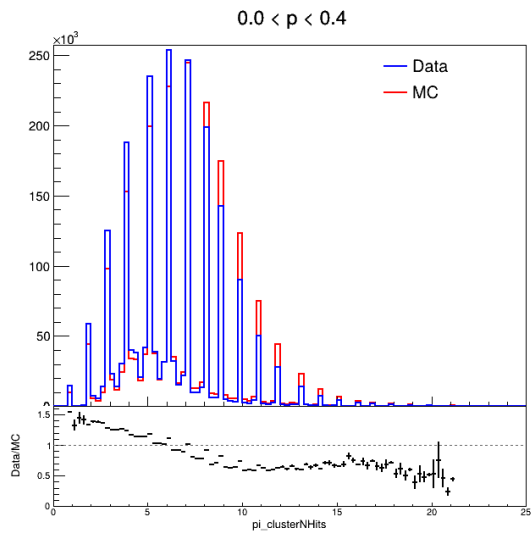


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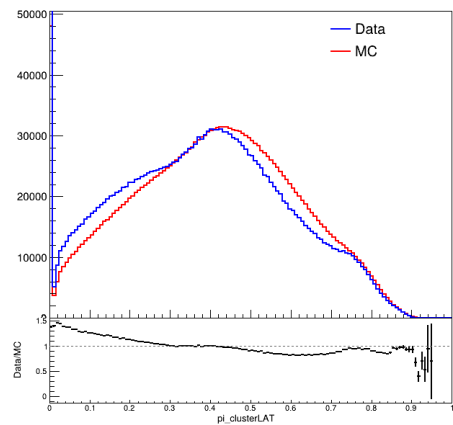
$0.0 < p < 0.4$  $0.4 < p < 0.6$  $0.6 < p < 1.2$  $0.0 < p < 0.4$  $0.4 < p < 0.6$  $0.6 < p < 1.2$ 

$0.0 < p < 0.4$  $0.4 < p < 0.6$  $0.6 < p < 1.2$  $0.0 < p < 0.4$  $0.4 < p < 0.6$  $0.6 < p < 1.2$ 

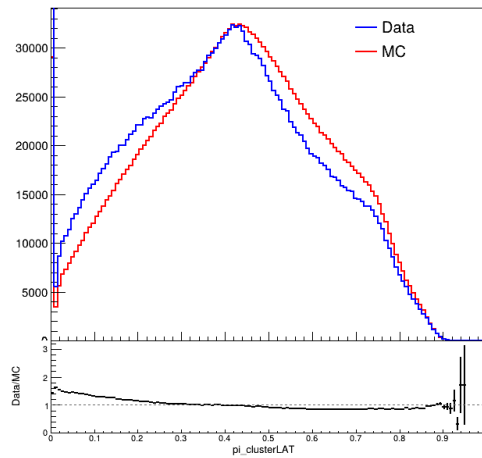
$0.0 < p < 0.4$  $0.4 < p < 0.6$  $0.6 < p < 1.2$  $0.0 < p < 0.4$  $0.4 < p < 0.6$  $0.6 < p < 1.2$ 



$0.0 < p < 0.4$



$0.4 < p < 0.6$



$0.6 < p < 1.2$

