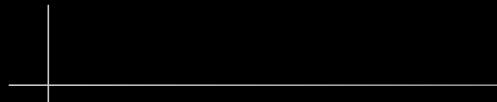


# Updaye on Heep Coin Offset Study

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Nov 2, 2022

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# Recall

- Looking at Heep Coin data from 6.2, 8.2 and 10.6 GeV Kaon-Lt data

$E_{beam}$	$P_{SHMS}$	$P_{HMS}$	$\theta_{SHMS}$	$\theta_{HMS}$
10.6	4.84	6.59	26.14	18.84
8.2	4.67	4.37	23.09	25,78
6.2	3.48	3.57	28.56	27,27

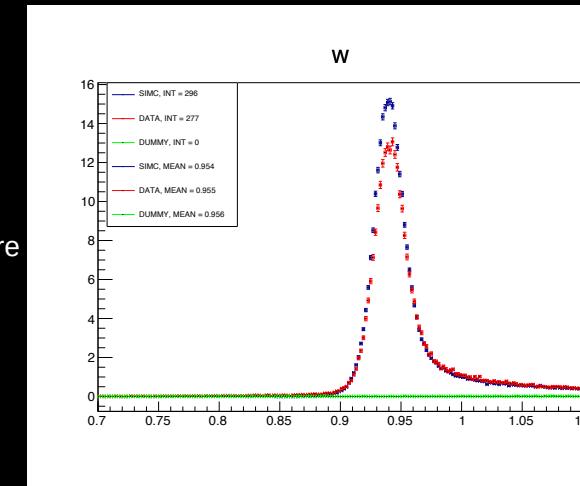
# Offset Study

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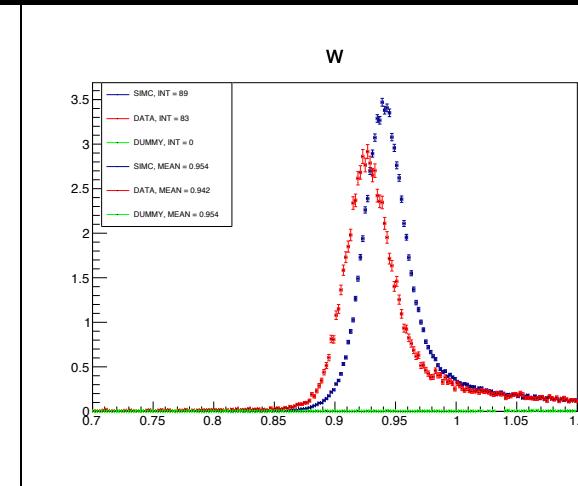
- Peter Bosted looked at Kaon-LT data from 6.2, 8.2 and 10.6 GeV (both Pion and Kaon reactions)
- He recommends a correction factor of 0.998 on HMS central momenta
  - Calculated from Holly's formula
  - Corresponds to -0.2% offset
- Also uses a vertical angle offset in HMS. Still working on implementing this.
- No offset on SHMS central momenta and / or angle
- His study show Pion and Kaon MM having peaks at the correct places with a minor shift (~ 2-3 MeV).

# W Comparison

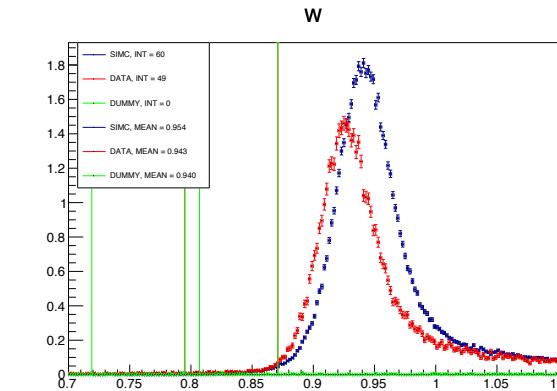
6.2



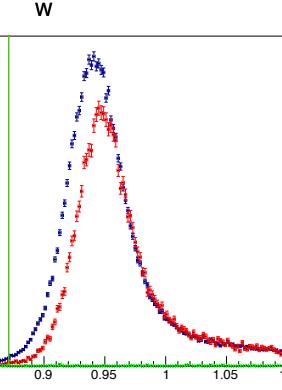
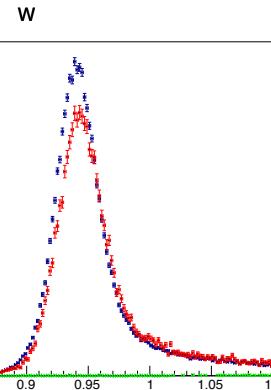
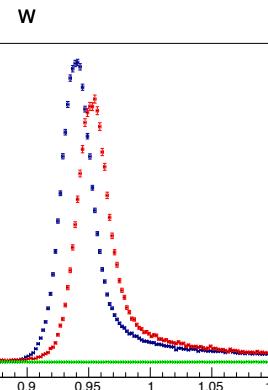
8.2



10.6



After



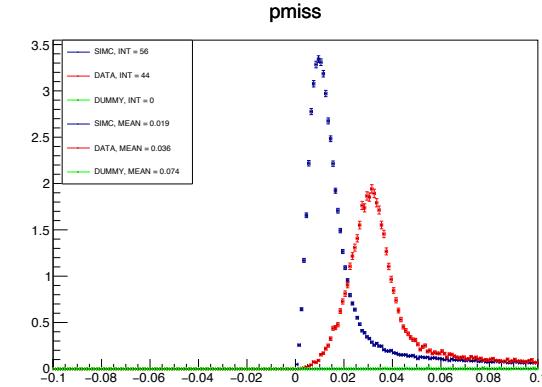
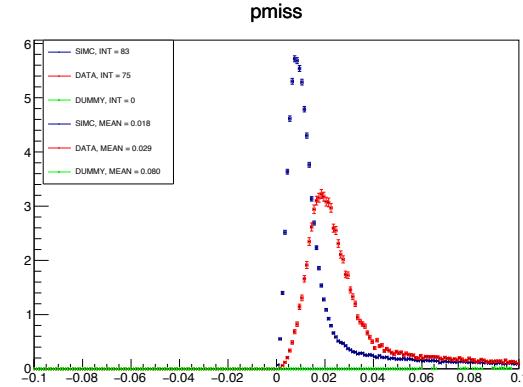
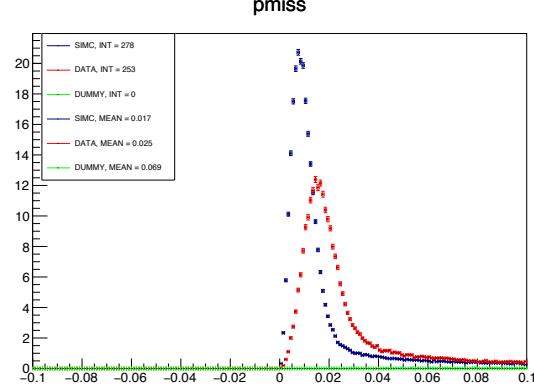
# Pmiss Comparison

6.2

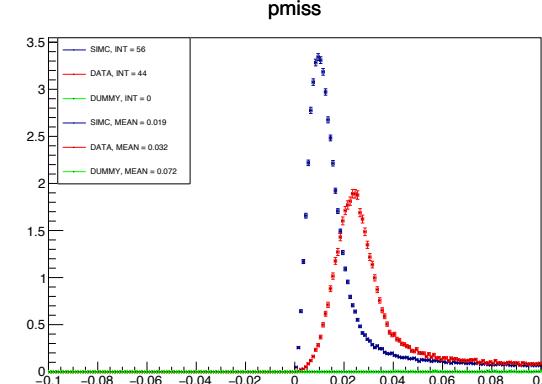
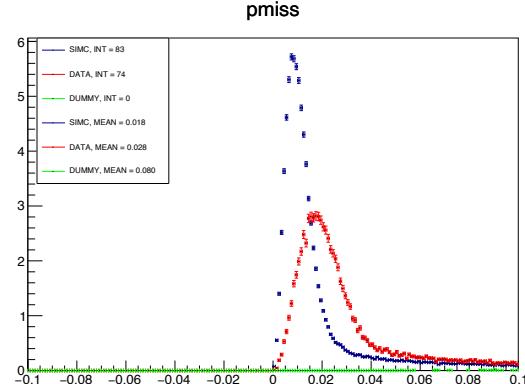
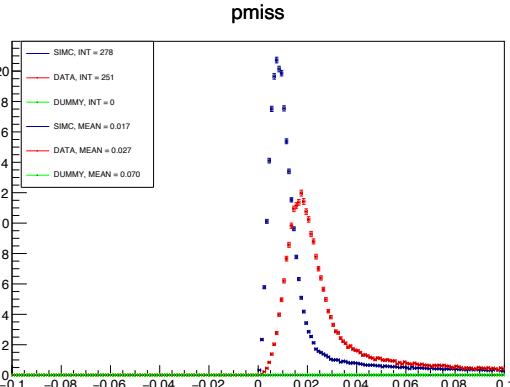
8.2

10.6

Before



After



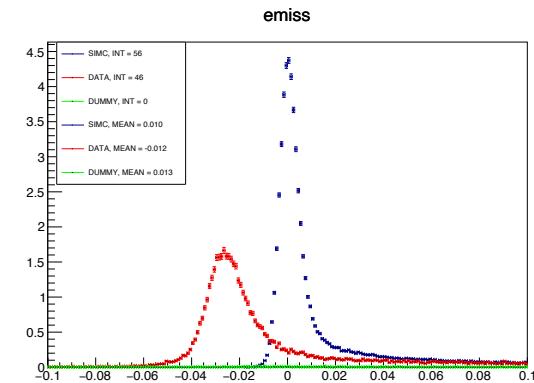
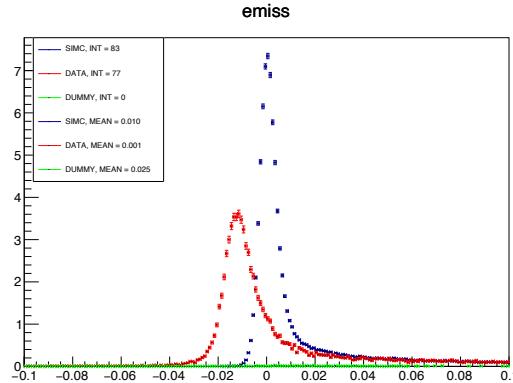
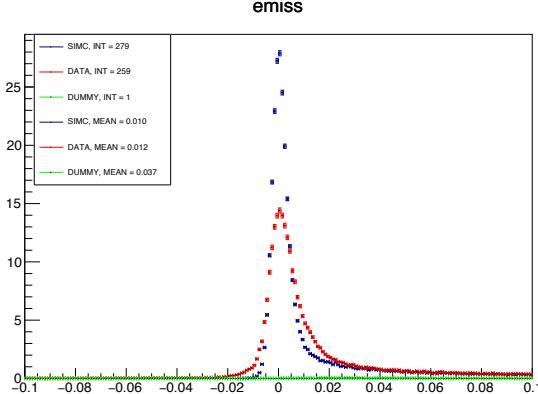
# Emiss Comparison

6.2

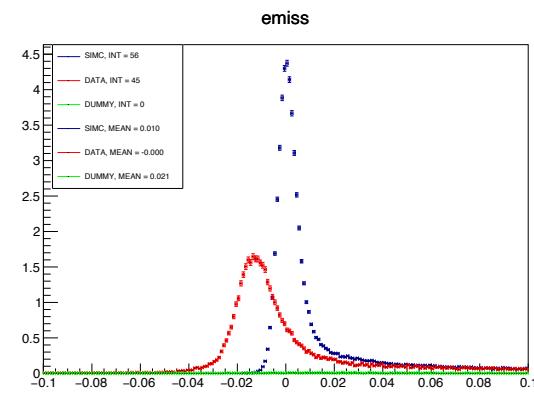
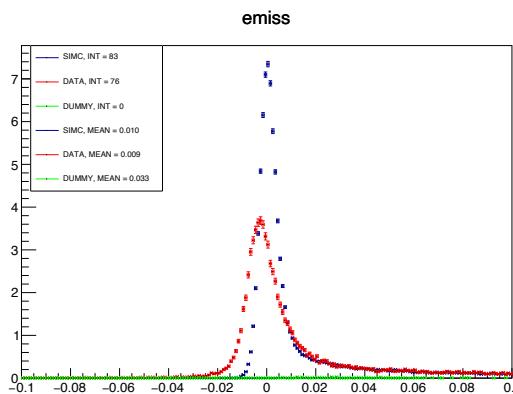
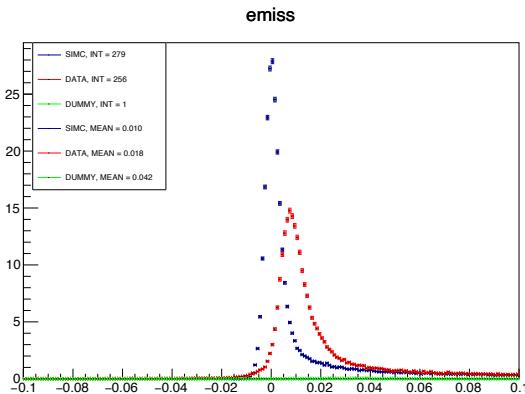
8.2

10.6

Before

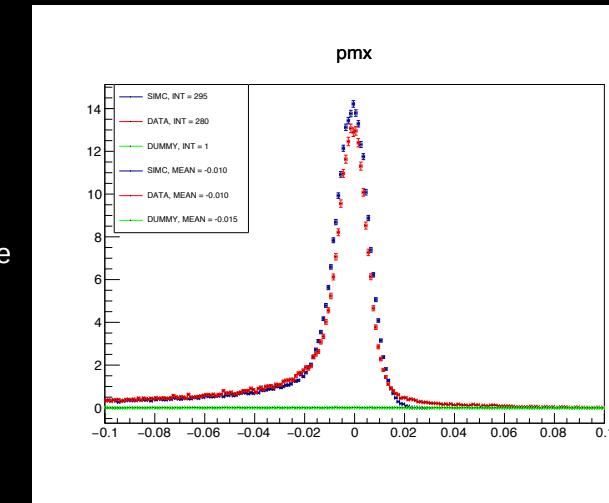


After

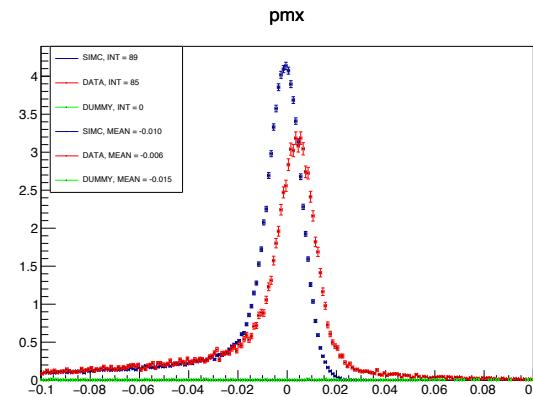


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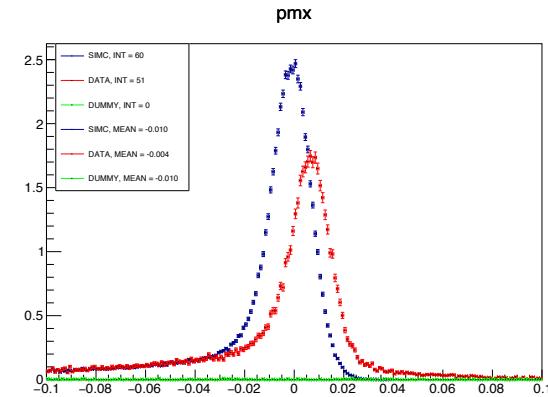
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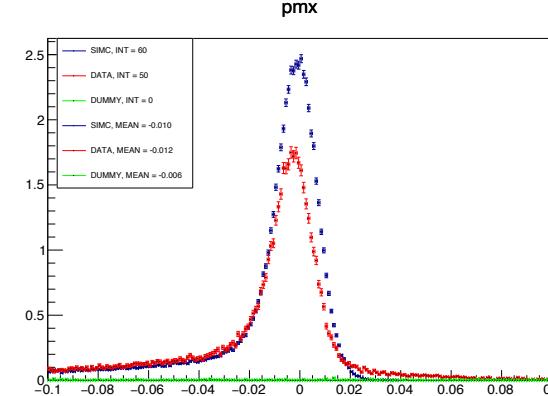
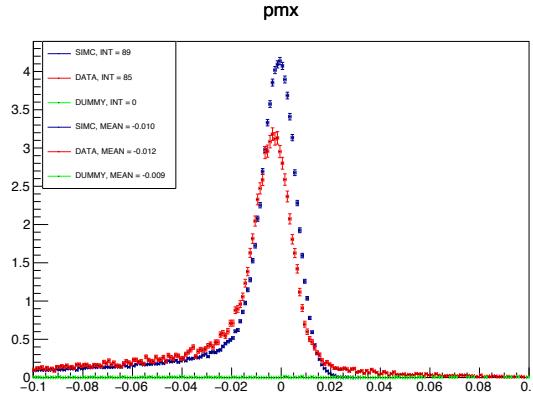
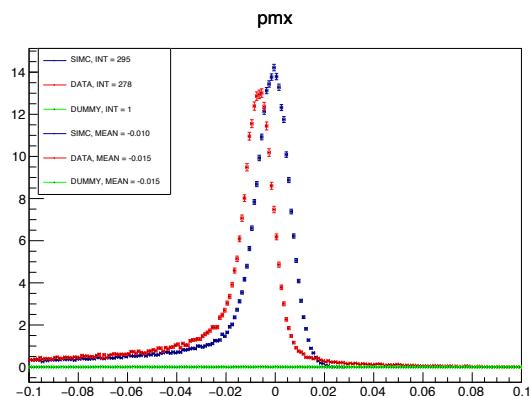
8.2



10.6



After



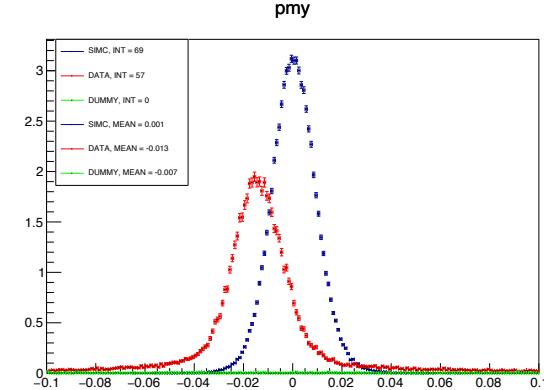
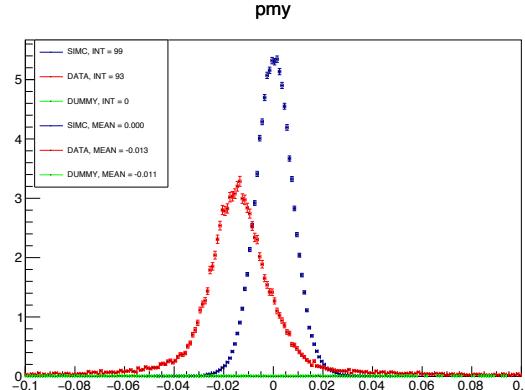
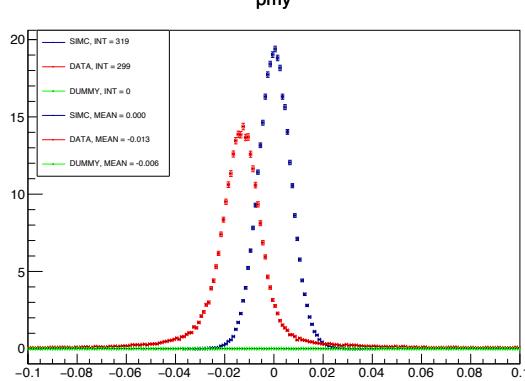
# Pmy Comparison

6.2

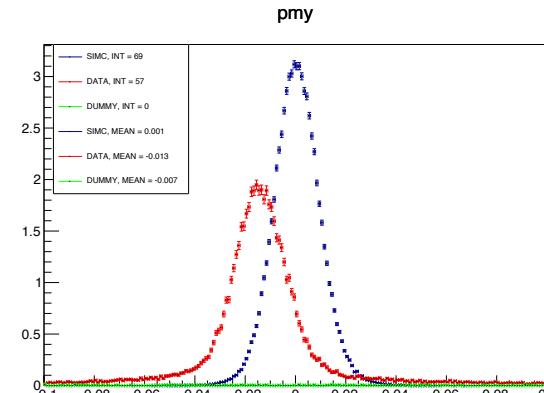
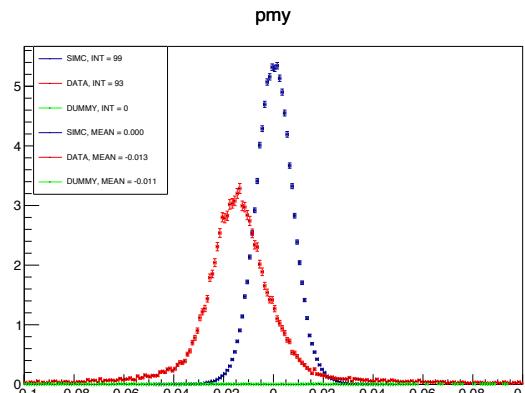
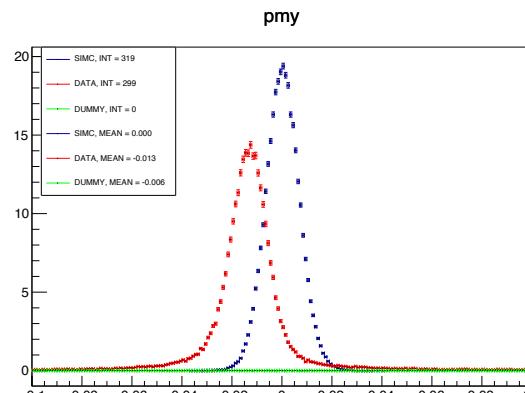
8.2

10.6

Before

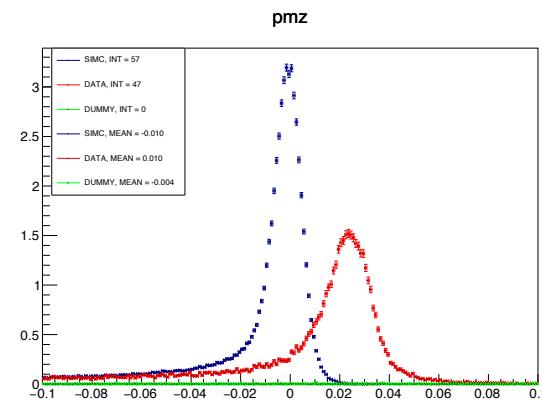
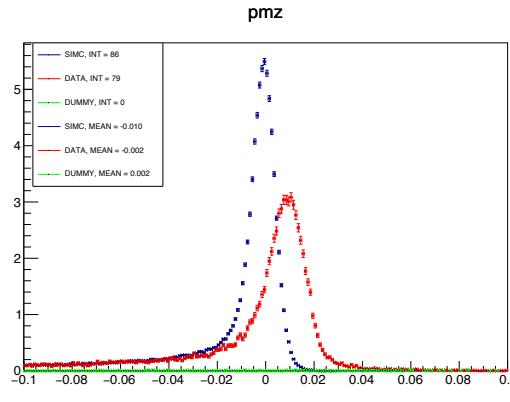
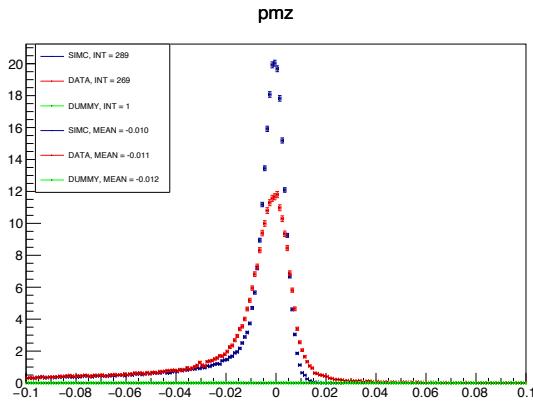


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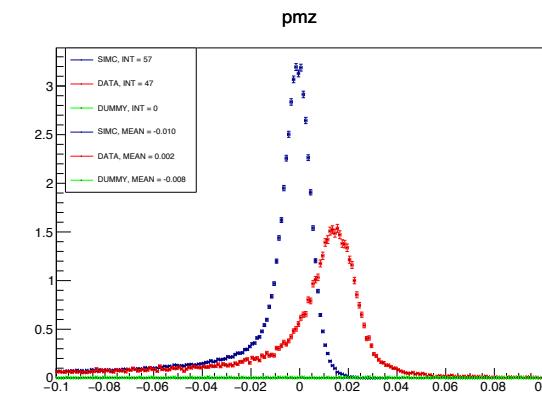
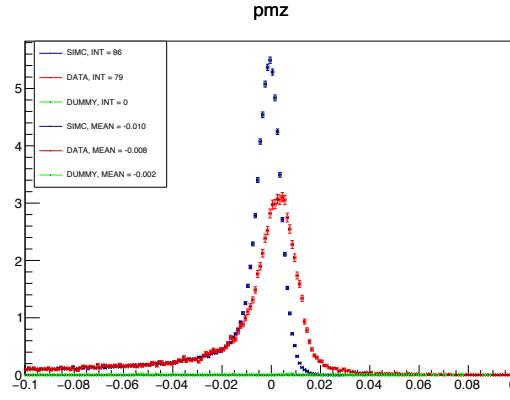
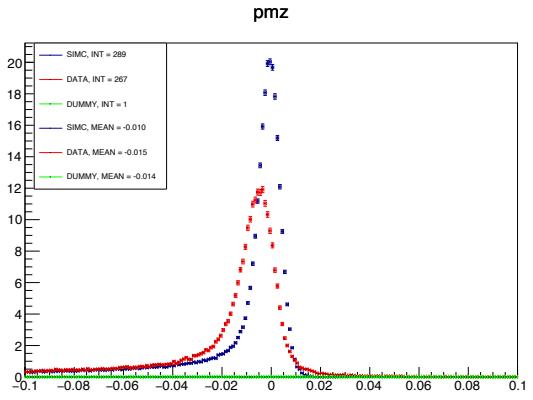


# Pmz Comparison

Before



After



# Summary

- Applied Peter's correction factor (0.998) for HMS central momenta (Offset -0.2%)
- 8.2 and 10.6 GeV results improved but 6.2 got worse (no offset is already good)
- Peter also uses a vertical angle offset in HMS
  - Currently testing this
- Data and SIMC aren't perfectly matching
  - Is this acceptable?