

HEP Weekly Report

NTUA

17/6/2020

George Bakas, Ioannis Papakrivopoulos



Status Report

- Signal Extraction
 - Error Propagation
 - Consistency checks with Giannis:
 - Different errors can lead up to big differences in Unfolding results
- Differential Cross Section measurements
 - Data vs Theory Ratio
 - Double ratio is impossible due to different binning for TOP-18-013 and new measurements
 - 2016 comparison with TOP-18-013 results
 - 2016 comparison with other years

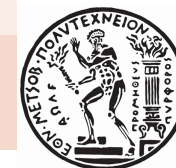


Signal Selection

Variables	Selected Cut
pT (both leading jets)	> 400 GeV
Njets	> 1
N leptons	= 0
eta (both leading jets)	< 2.4
mJJ	> 1000 GeV
jetMassSoftDrop (only for fit)	(50,300) GeV
Top Tagger	> 0.2
B tagging (2 btagged jets)	> Medium WP
Signal Trigger	

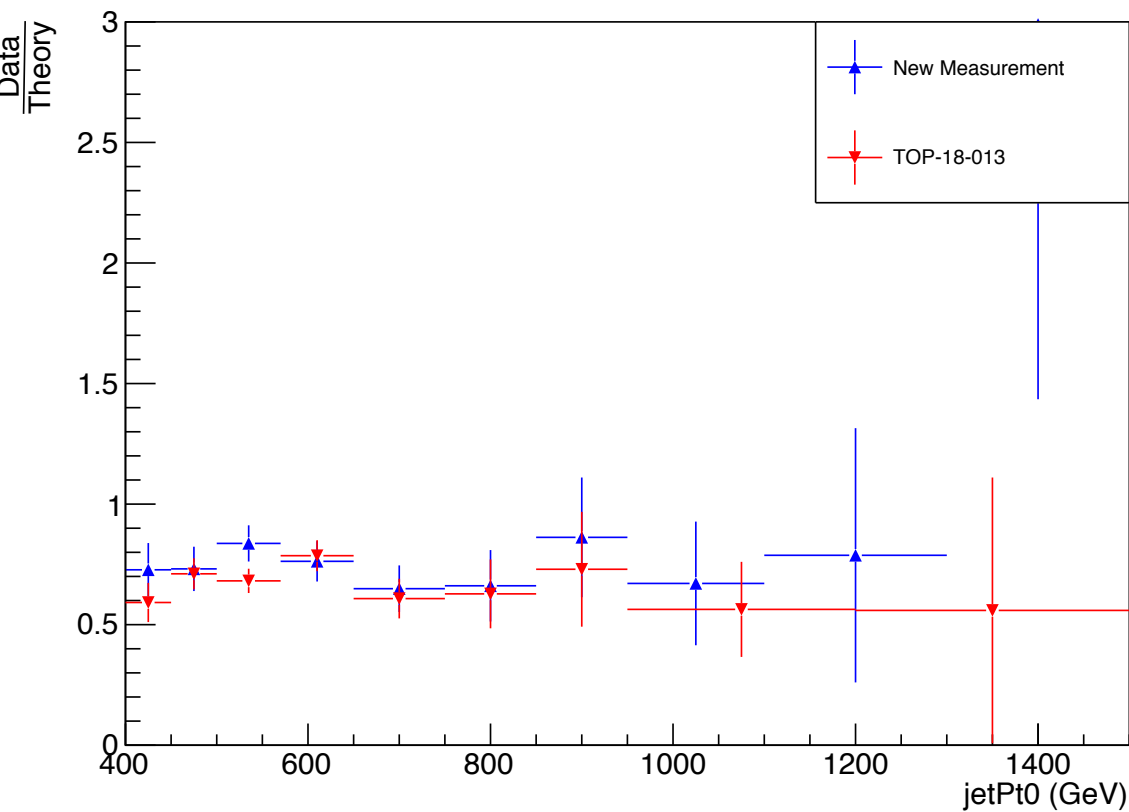
Control Region Selection

Variables	Selected Cut
pT (both leading jets)	> 400 GeV
Njets	> 1
N leptons	= 0
eta (both leading jets)	< 2.4
mJJ	> 1000 GeV
jetMassSoftDrop (only for fit)	(50,300) GeV
Top Tagger	> 0.2
B tagging (0 btagged jets)	< Medium WP
Control Trigger	

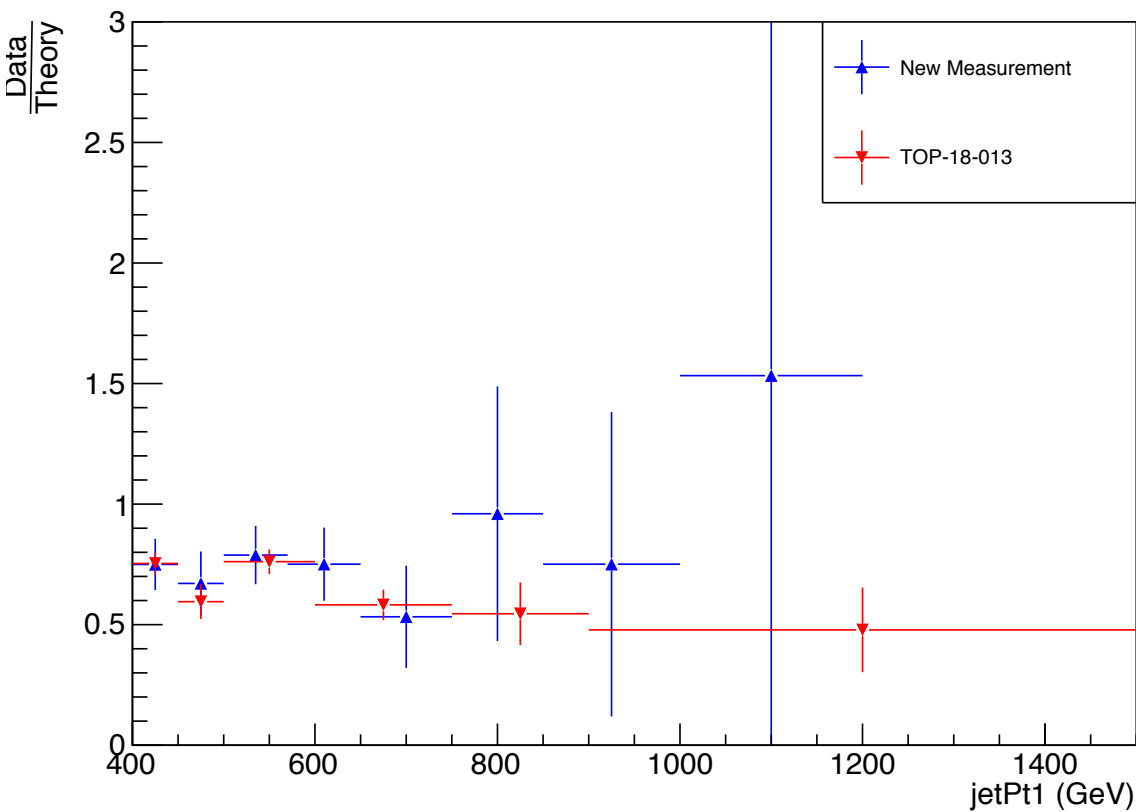


Differential Cross Section Measurements (Parton) 2016 Double Ratio

Parton DataOverMC ratio (2016, TOP18013)

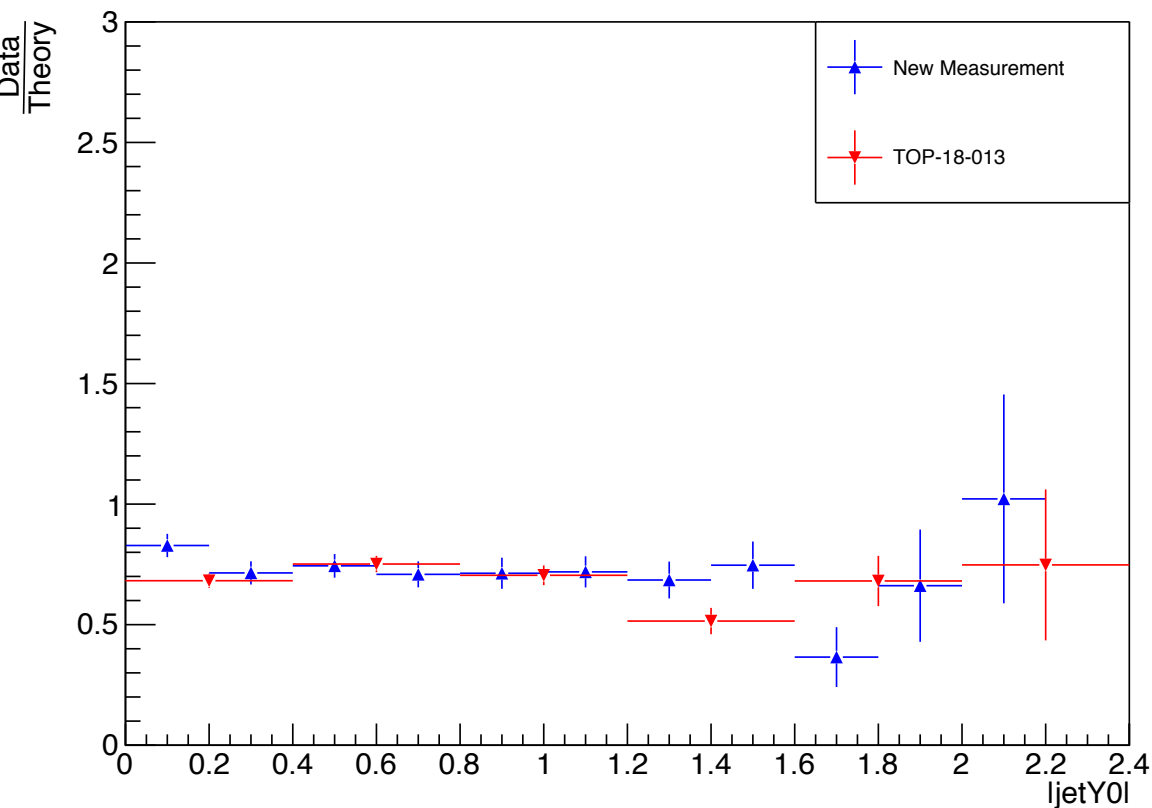


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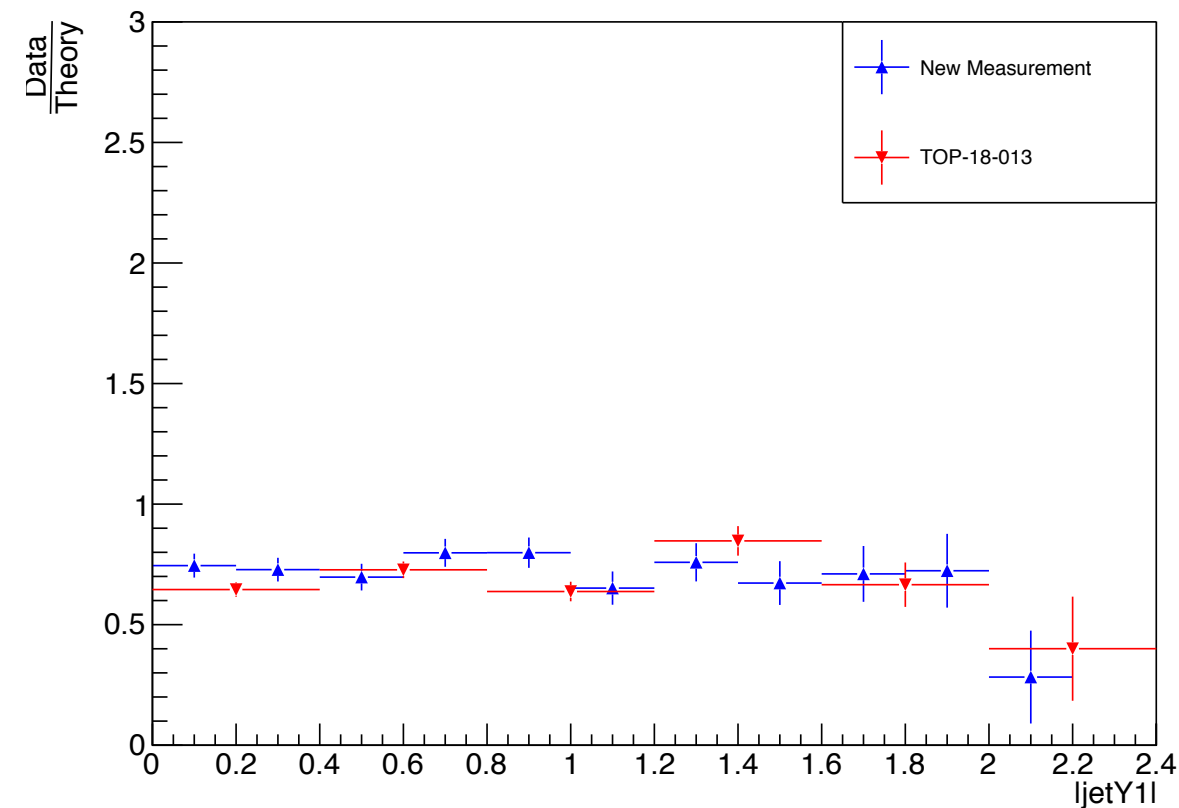


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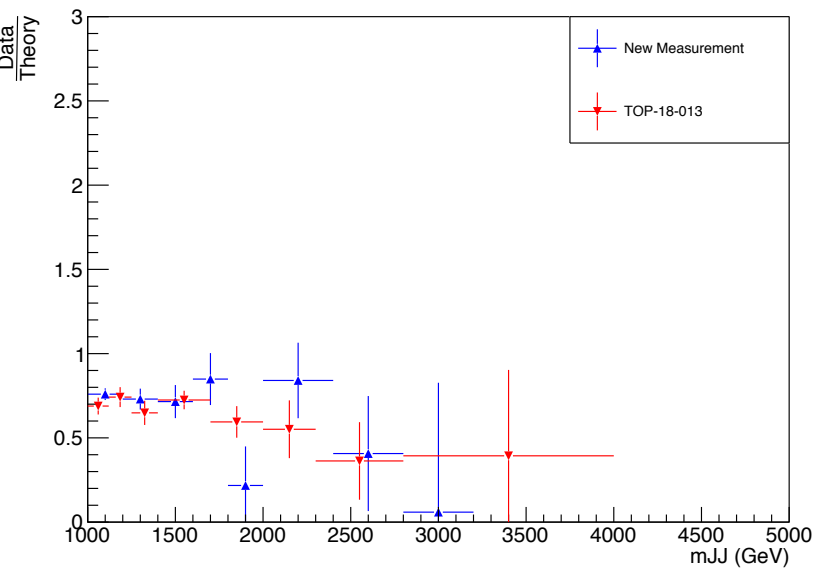


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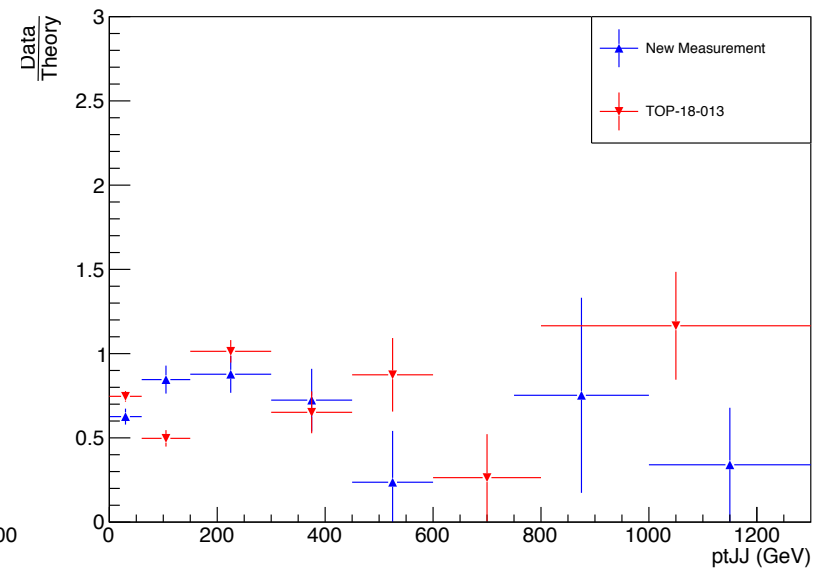


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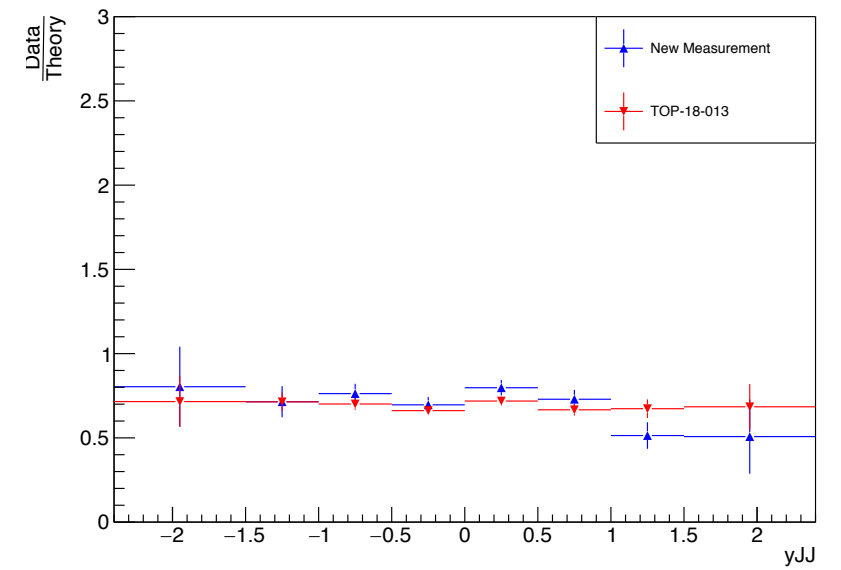
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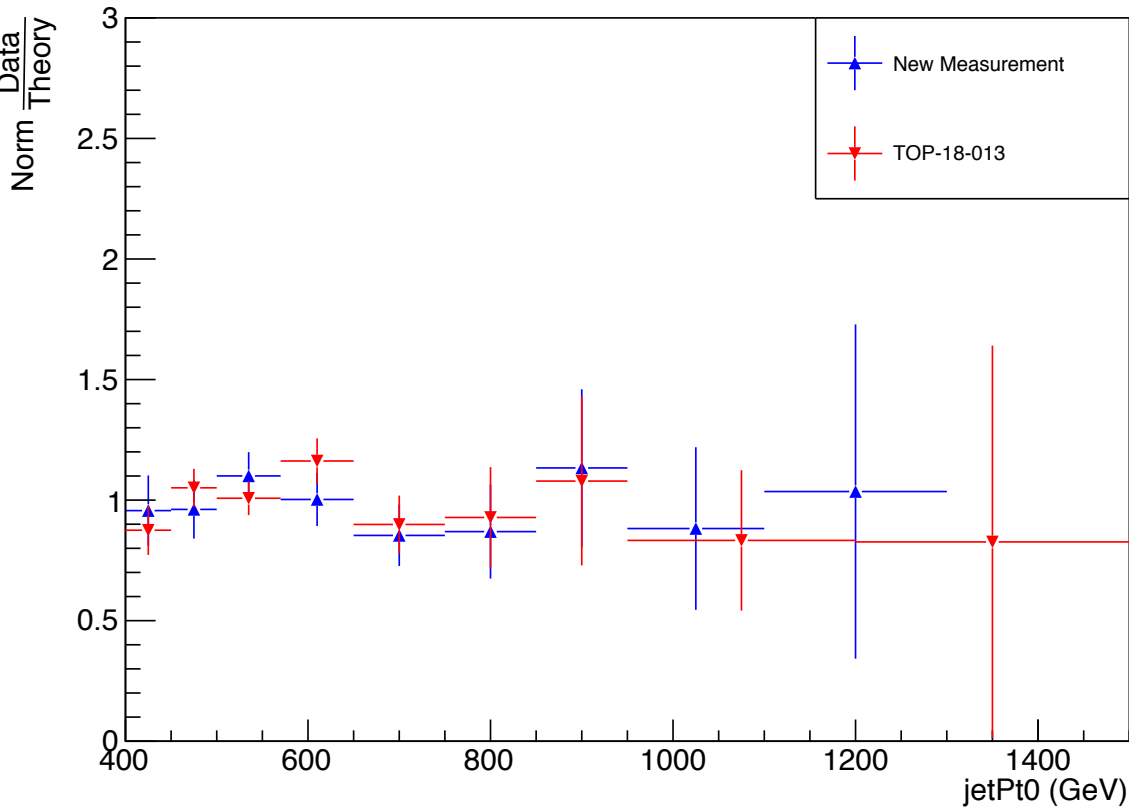


Parton DataOverMC ratio (2016, TOP18013)

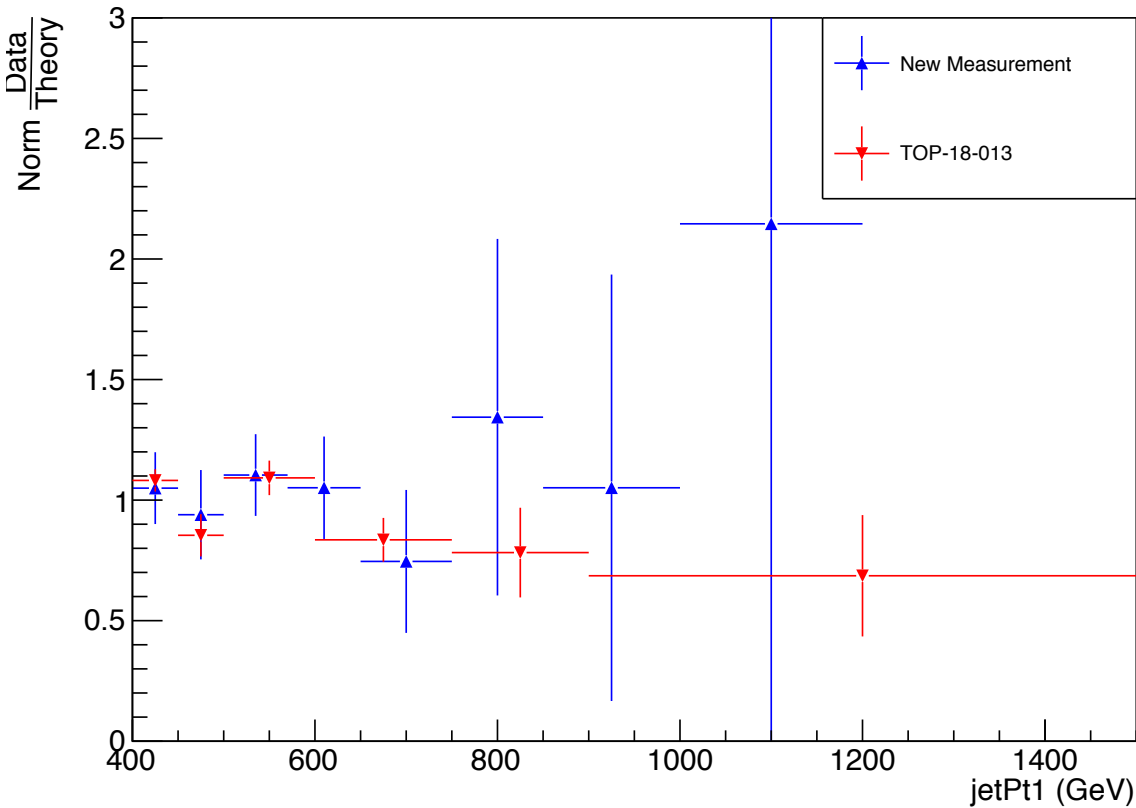


Differential Cross Section Measurements (Parton) 2016 Double Ratio Norm

Normalised Parton DataOverMC ratio (2016, TOP18013}

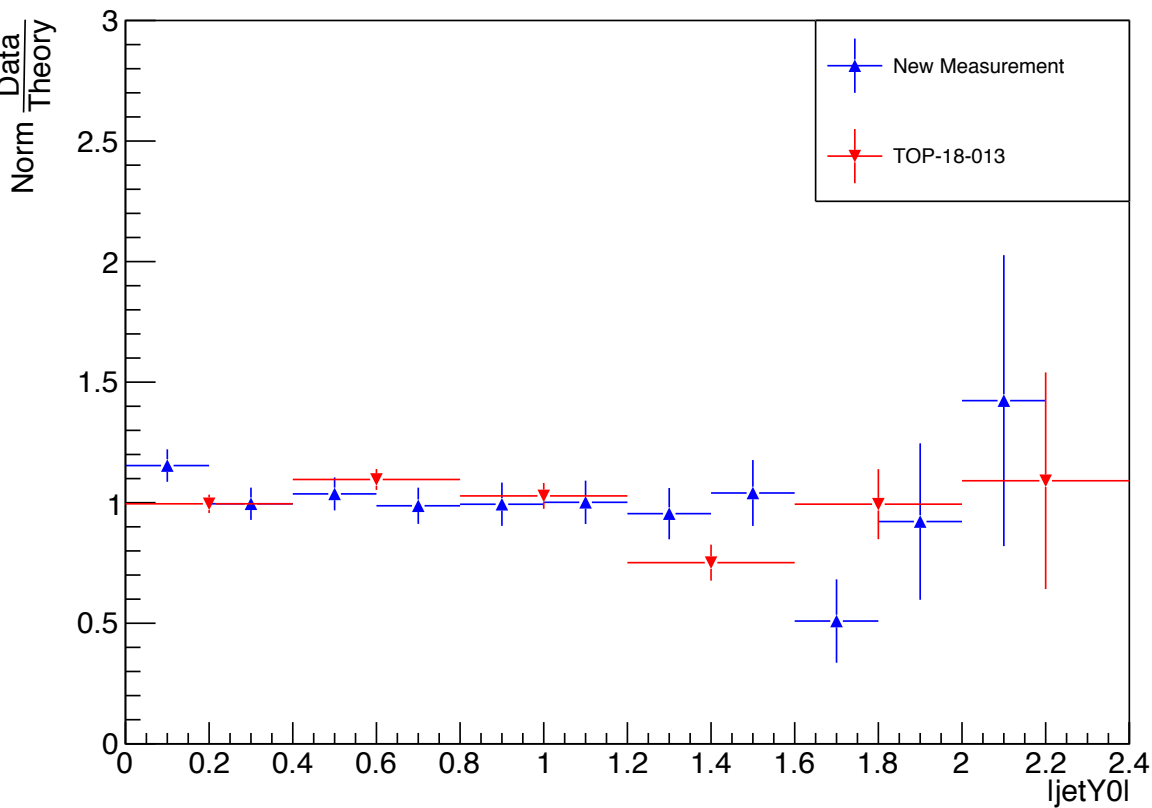


Normalised Parton DataOverMC ratio (2016, TOP18013}

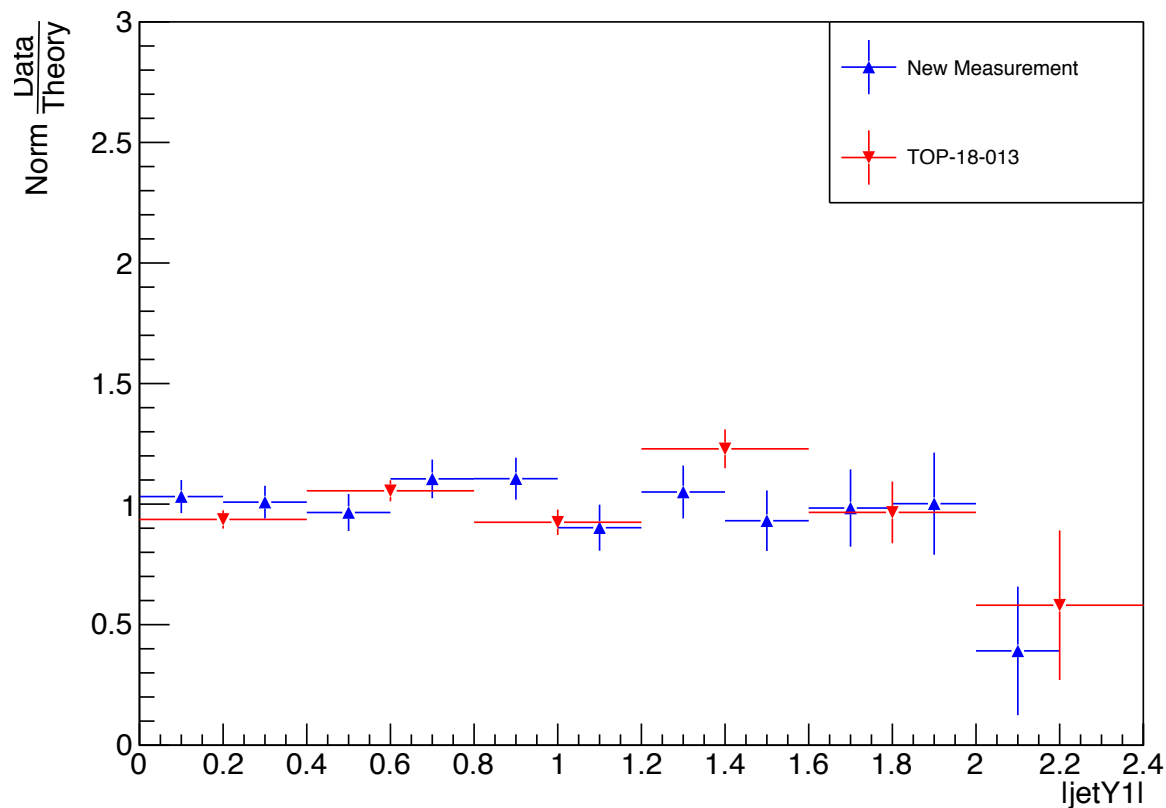


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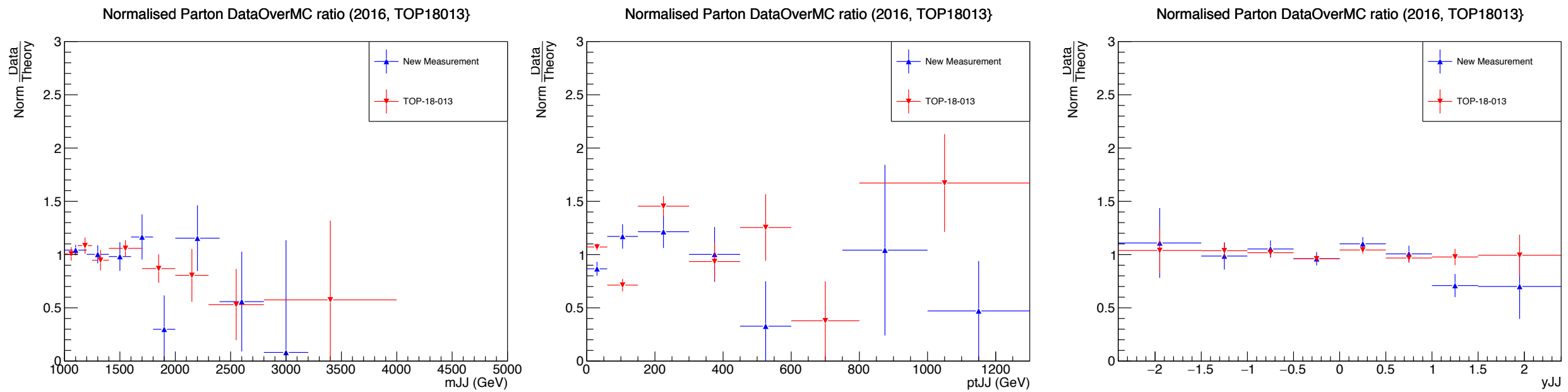
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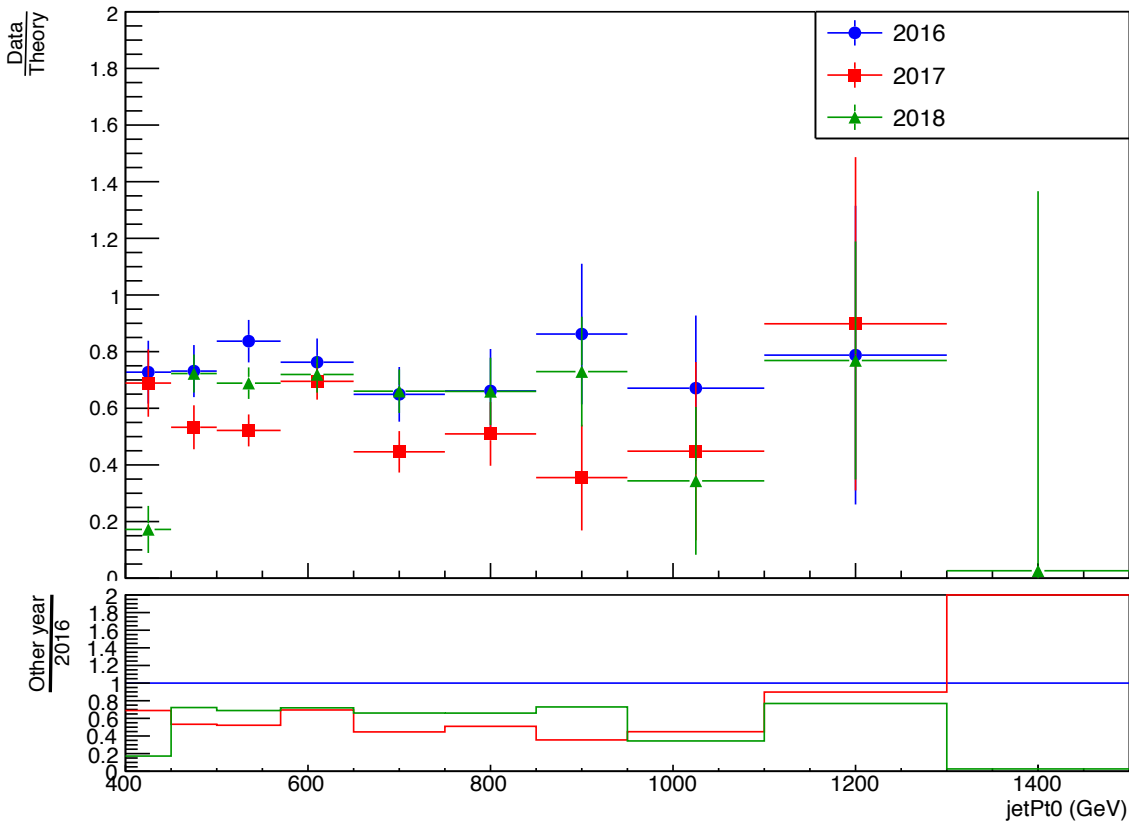


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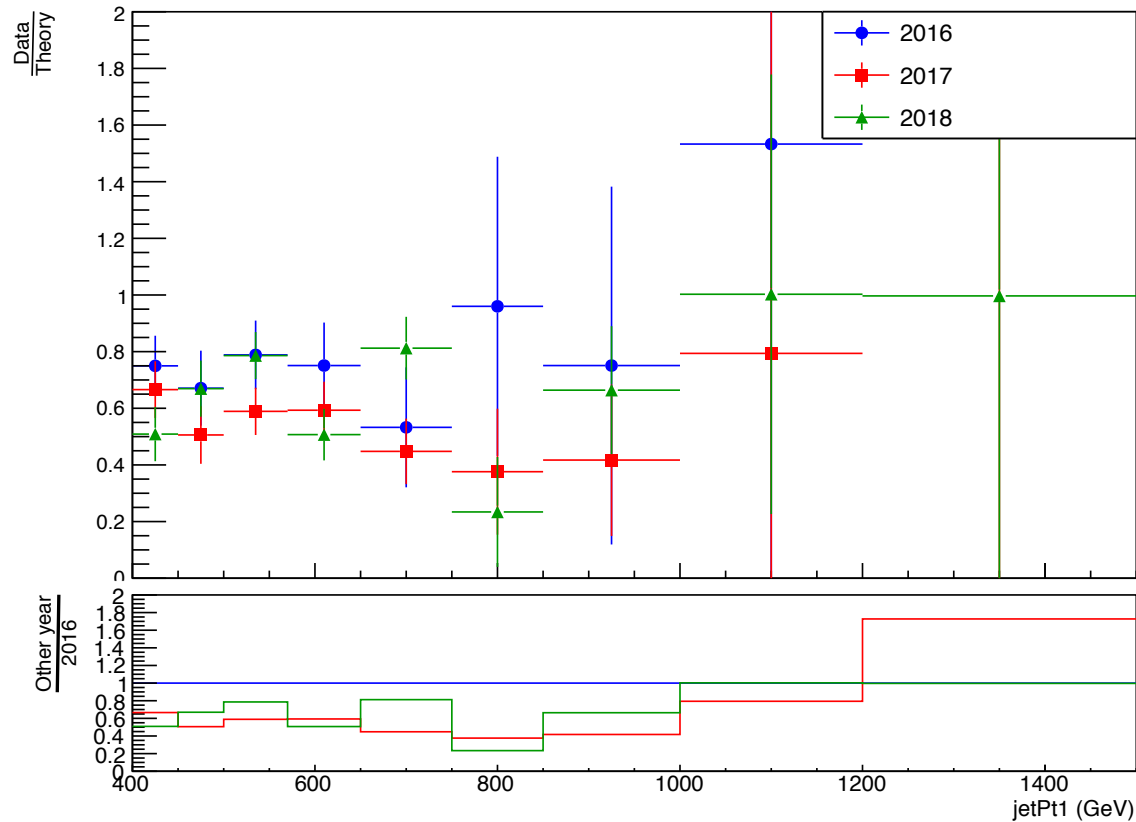


Differential Cross Section Measurements (Parton) over All years Double Ratio

Parton Unfolded Ratio Comparison ('16,'17,'18)

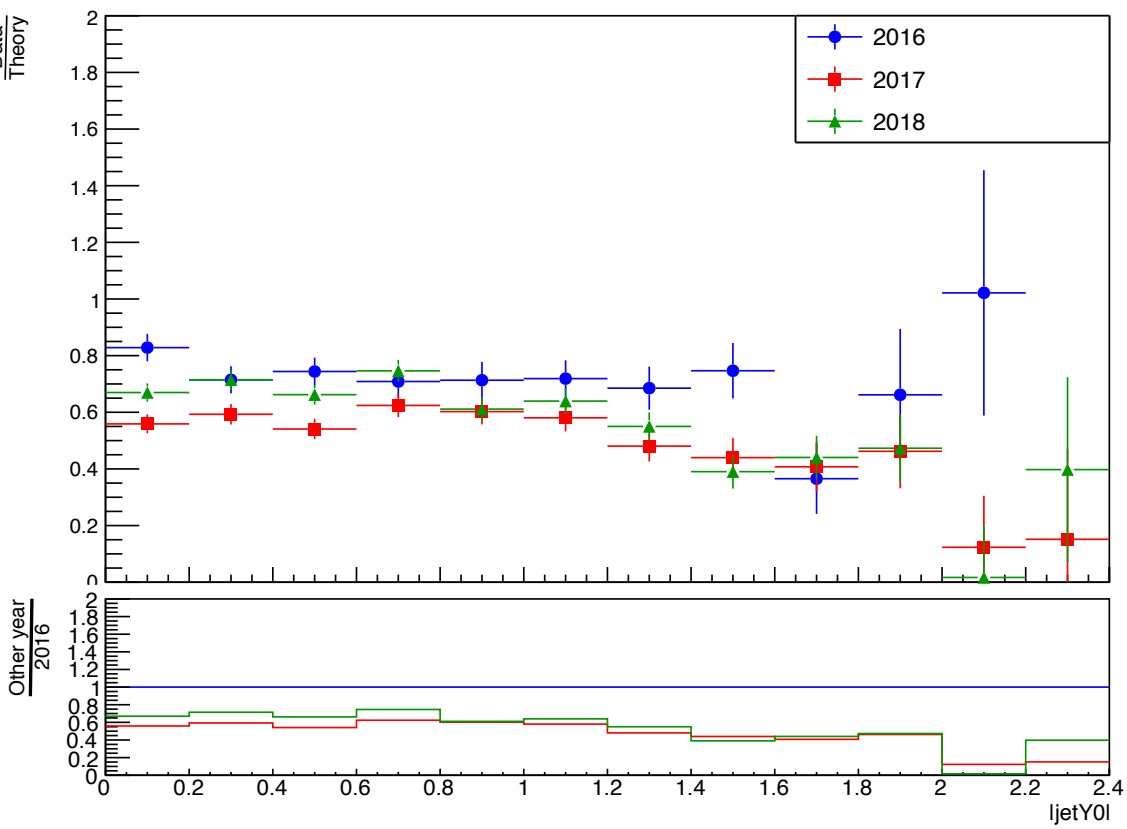


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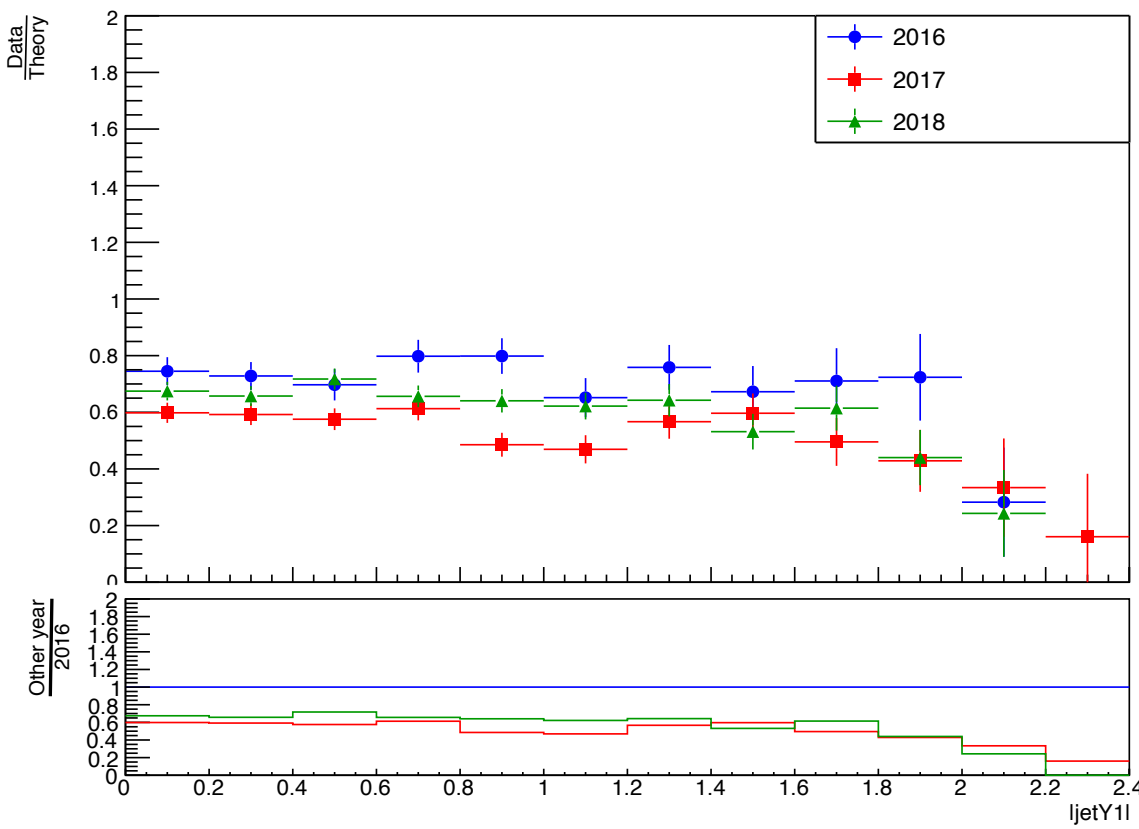


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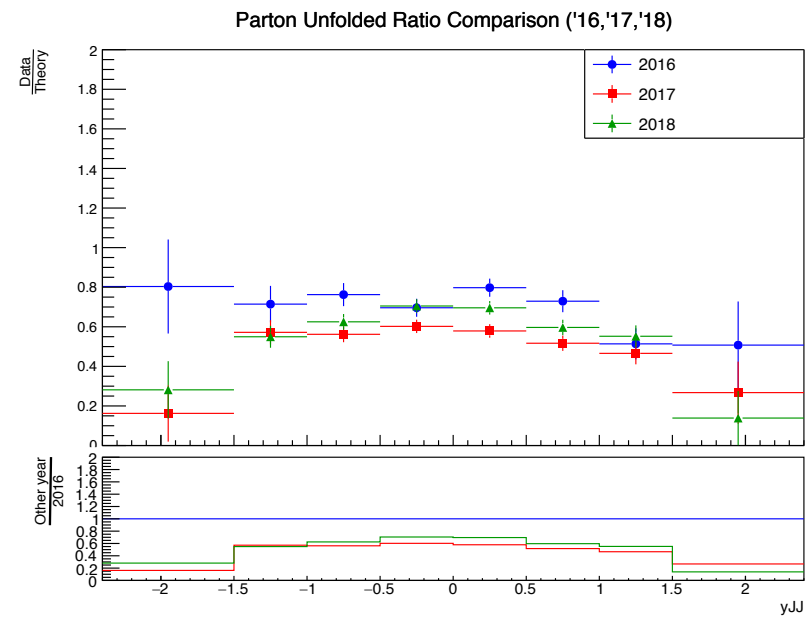
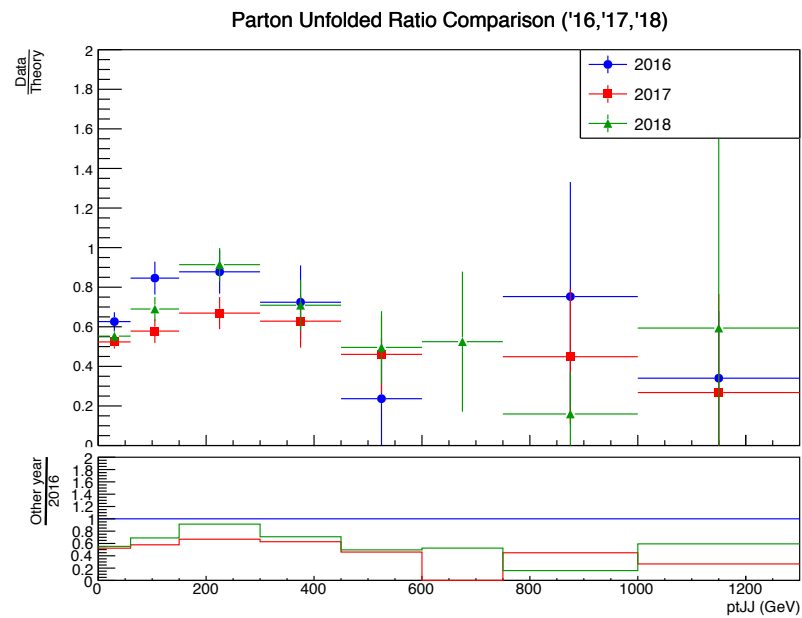
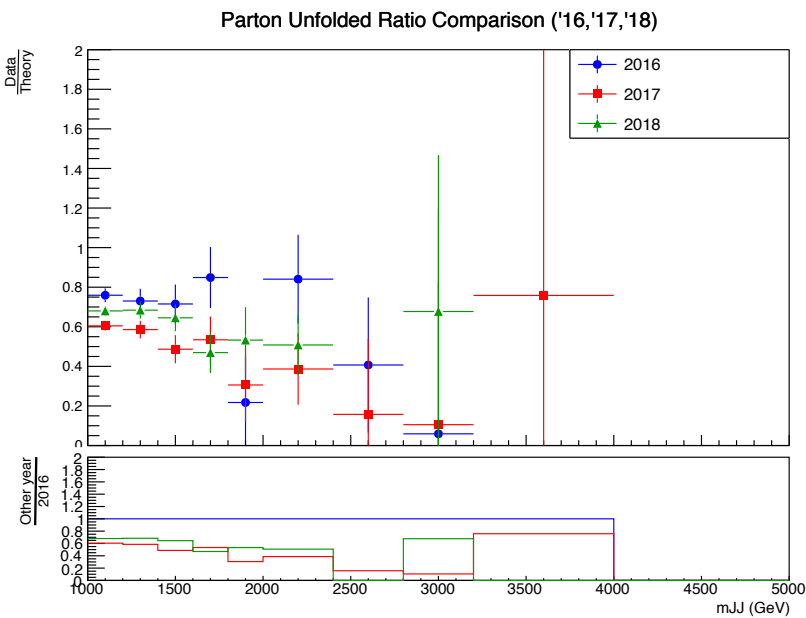
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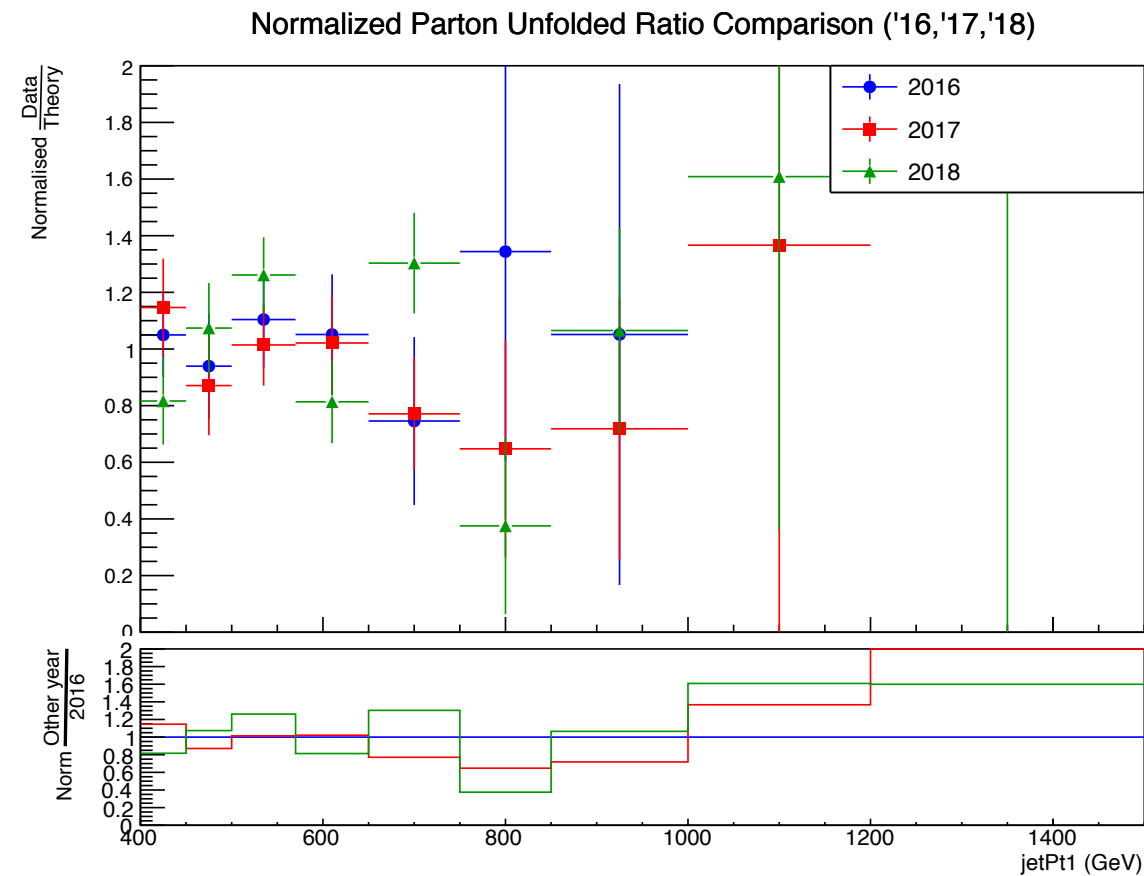
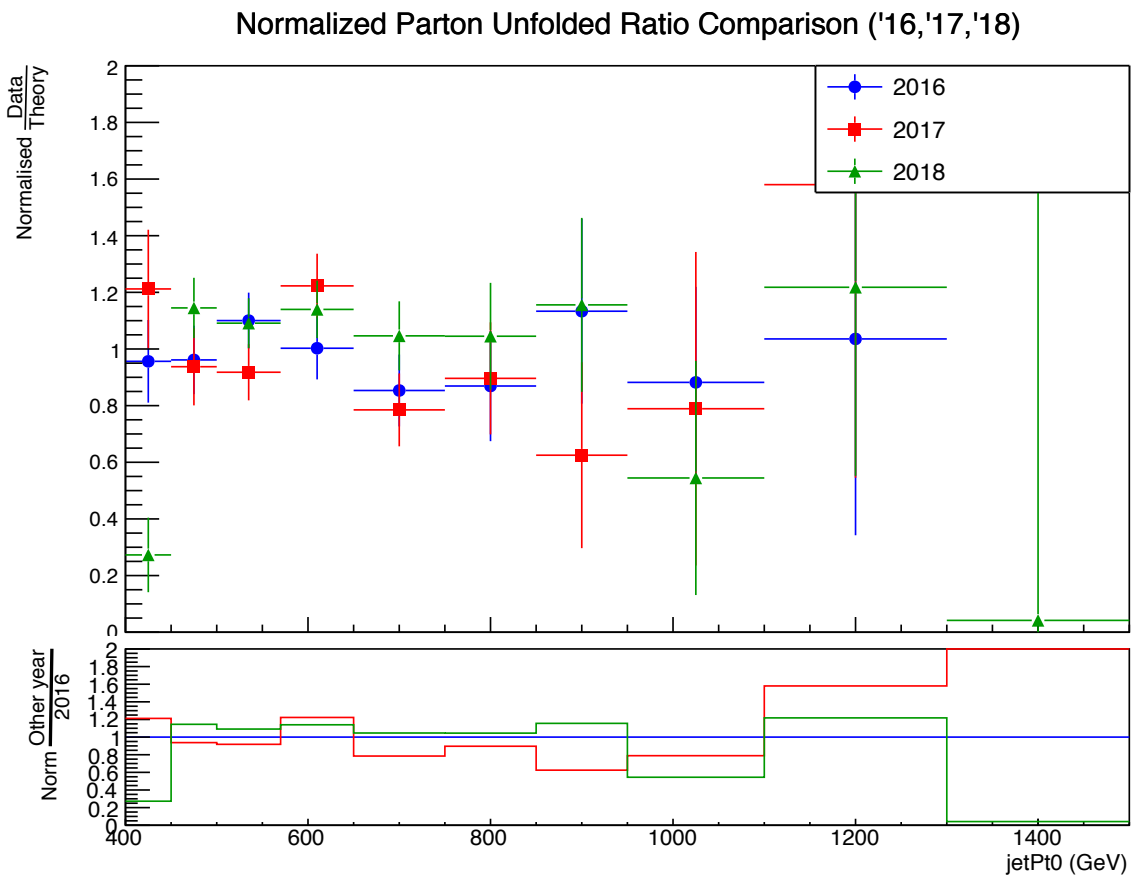
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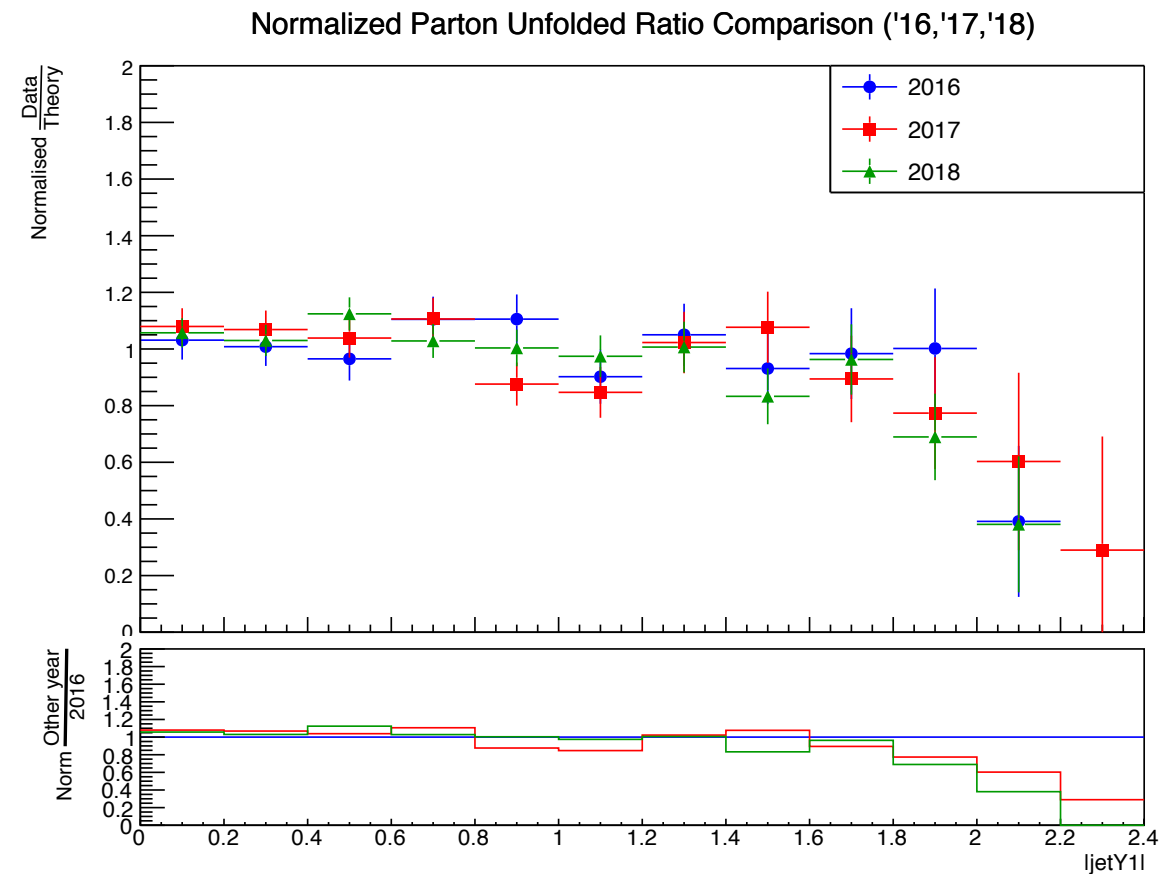
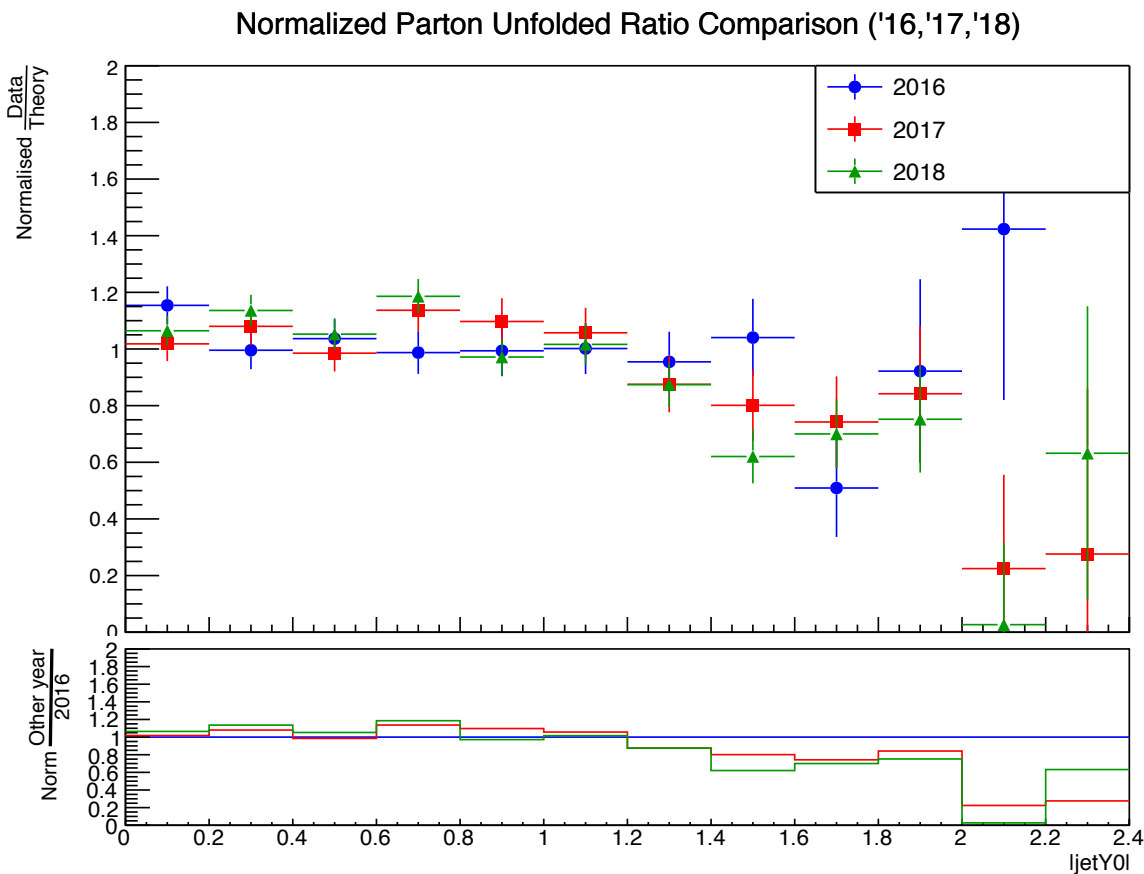
Differential Cross Section Measurements (Parton) over All years Double Ratio



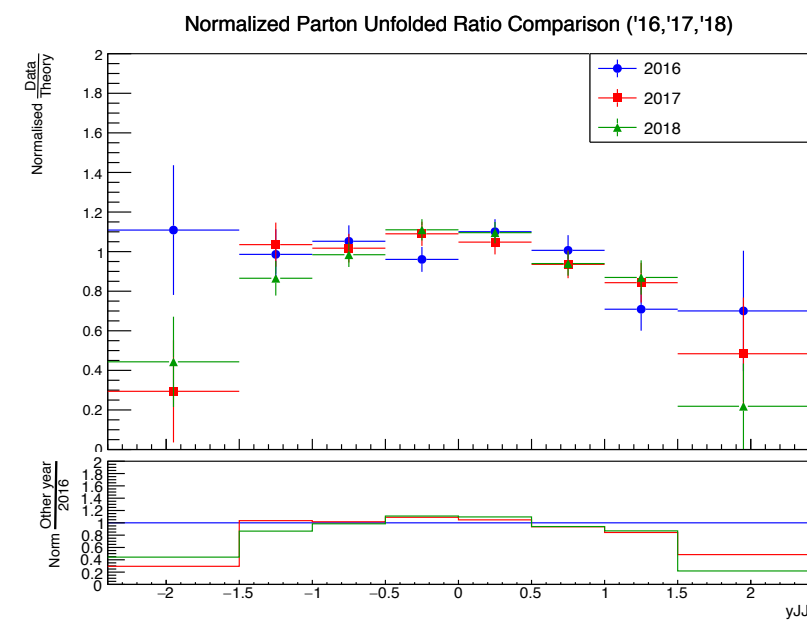
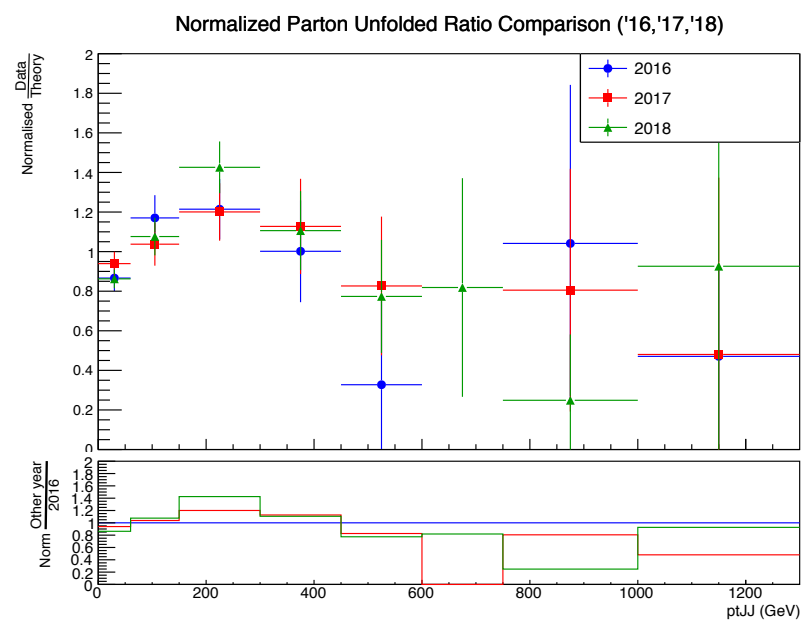
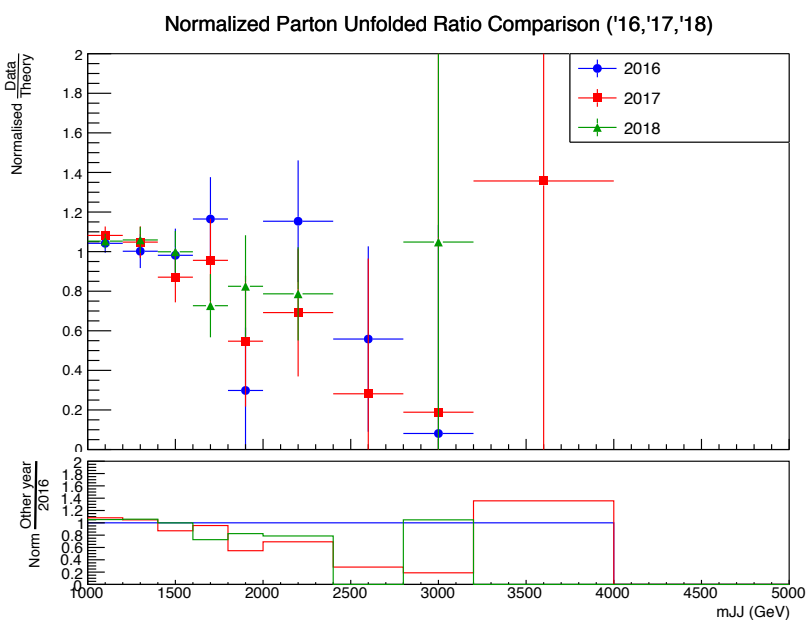
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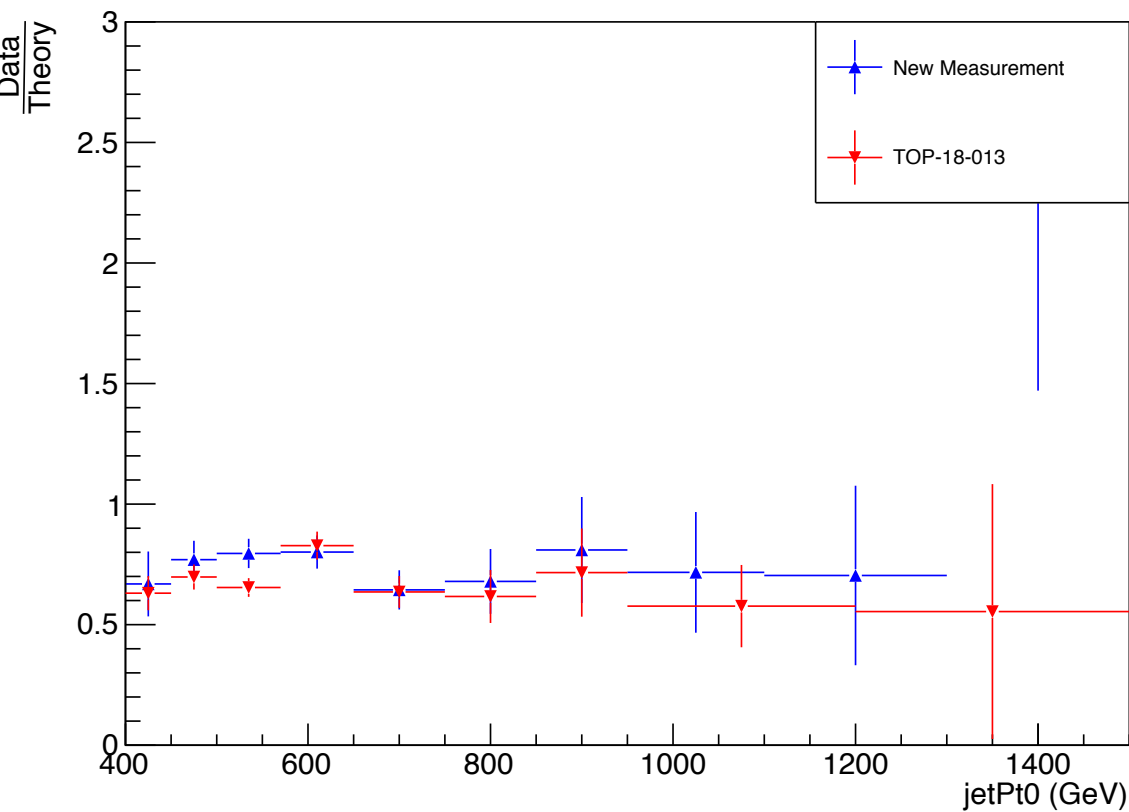


BACKUP

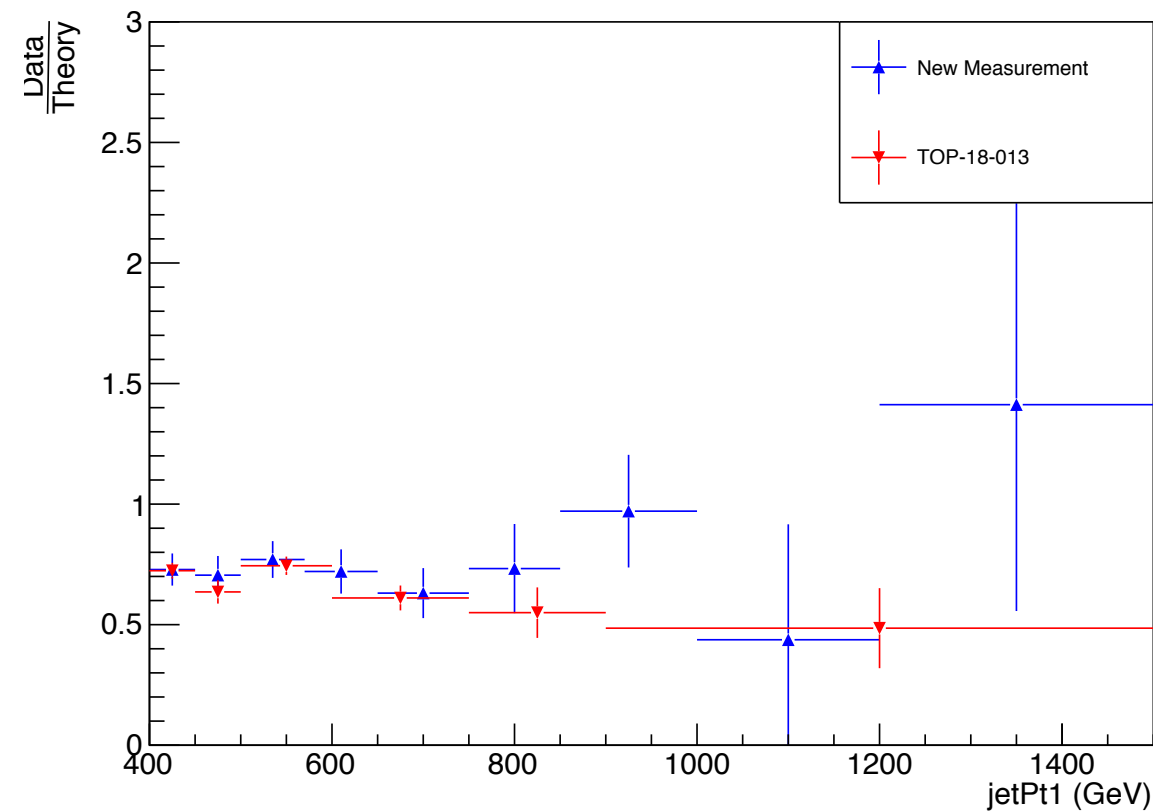


Differential Cross Section Measurements (Parton) 2016

Particle DataOverMC ratio (2016, TOP18013)

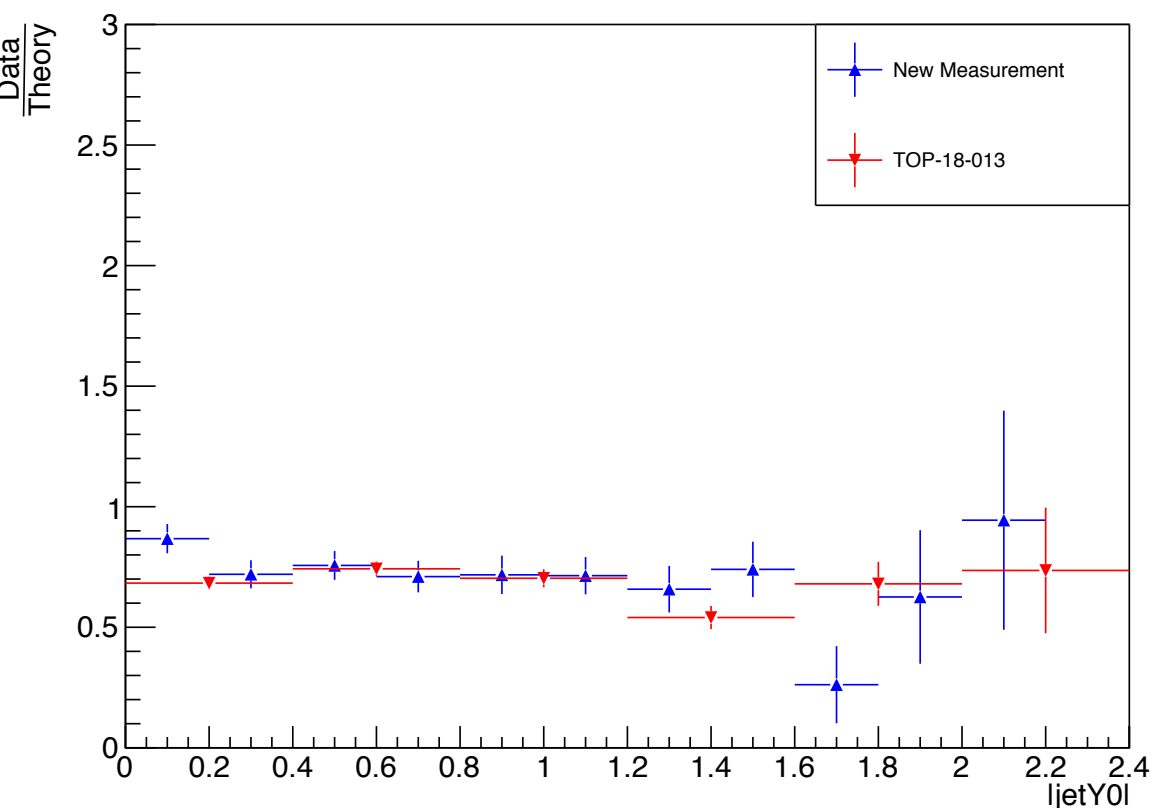


Particle DataOverMC ratio (2016, TOP18013)

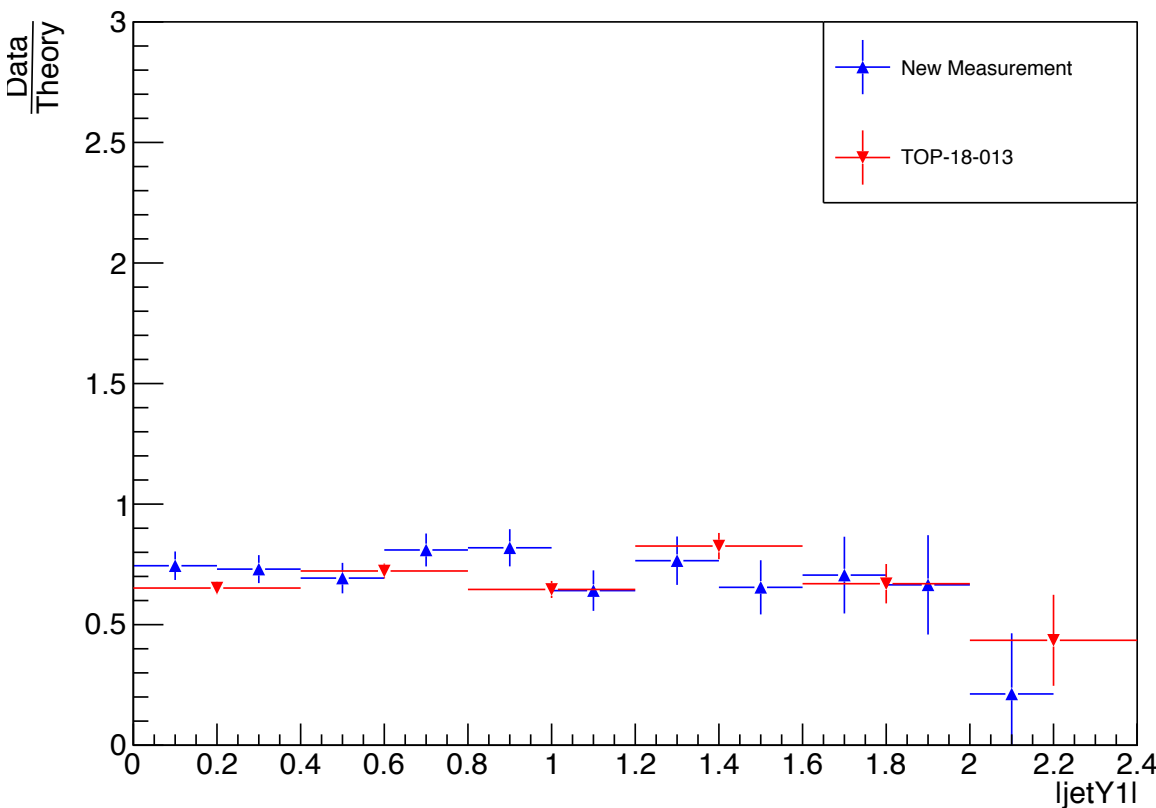


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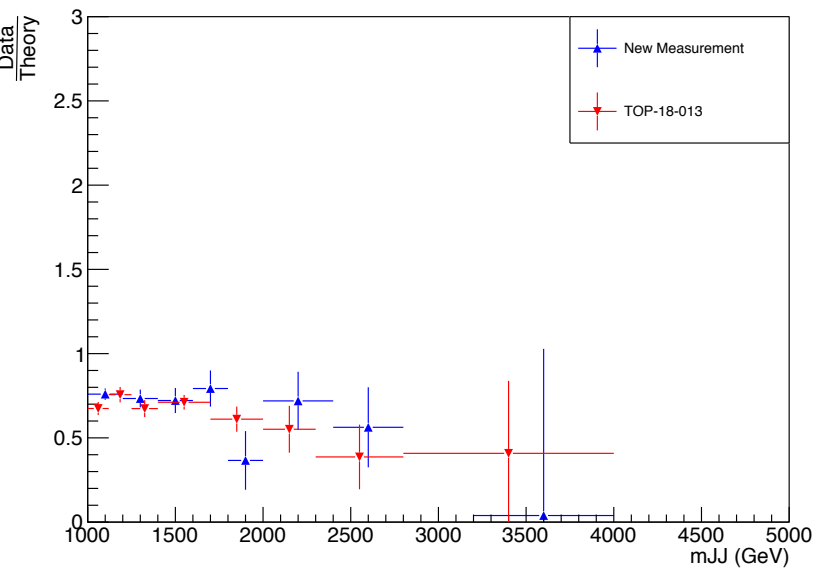


Particle DataOverMC ratio (2016, TOP18013)

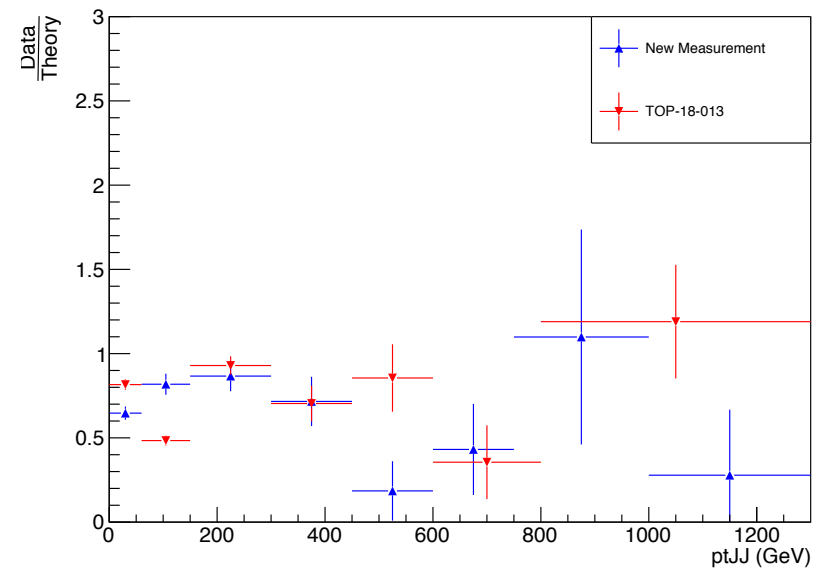


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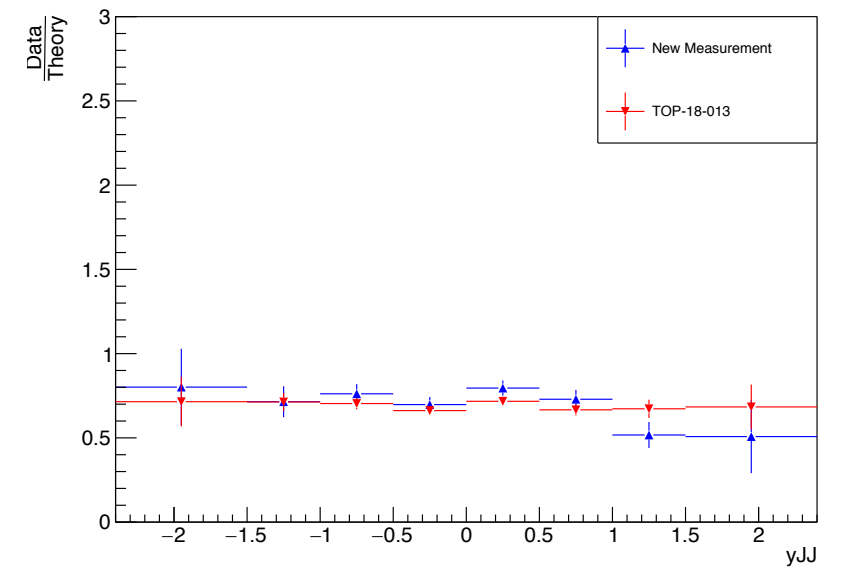
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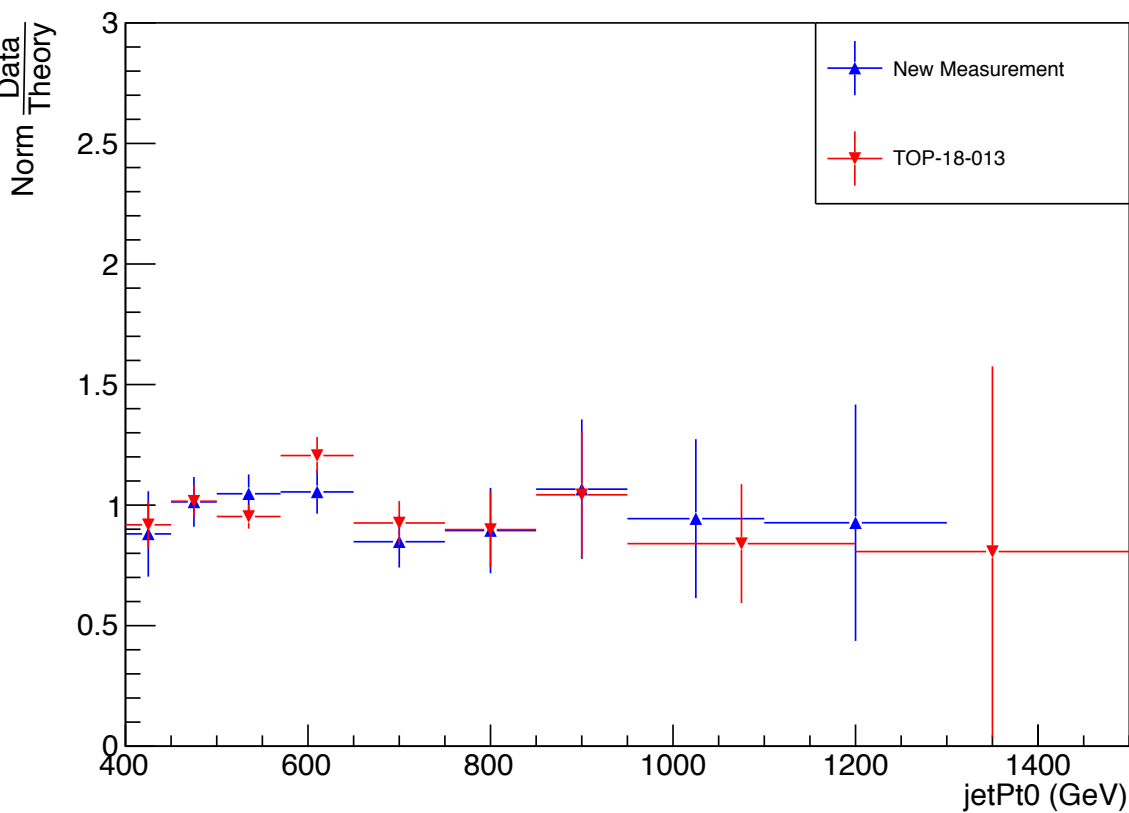


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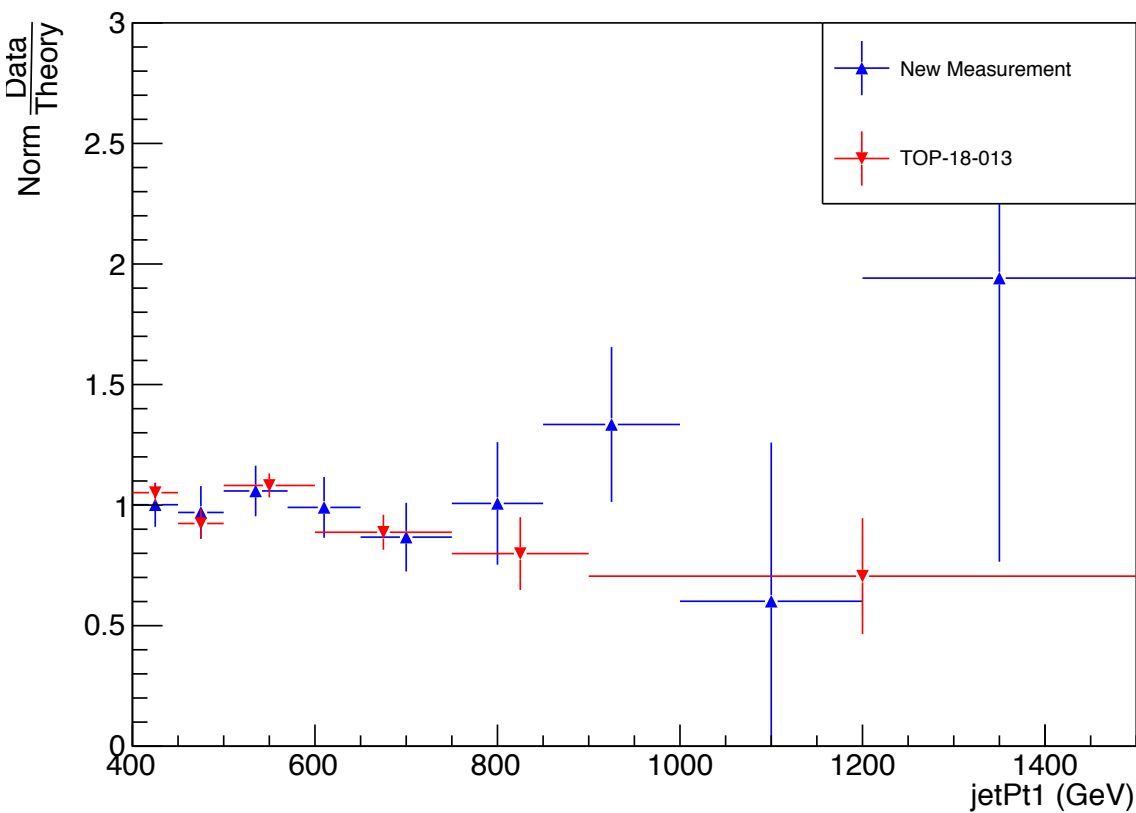


Differential Cross Section Measurements (Parton) 2016 Norm

Normalised Particle DataOverMC ratio (2016, TOP18013}

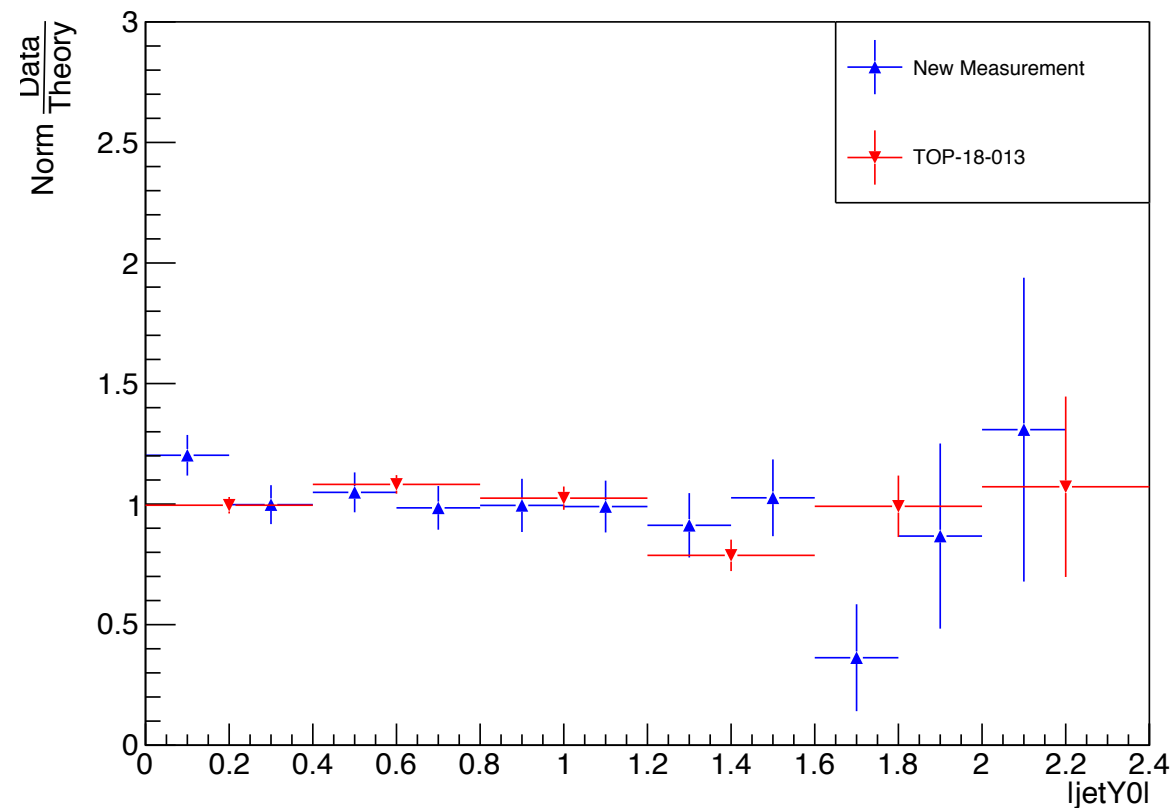


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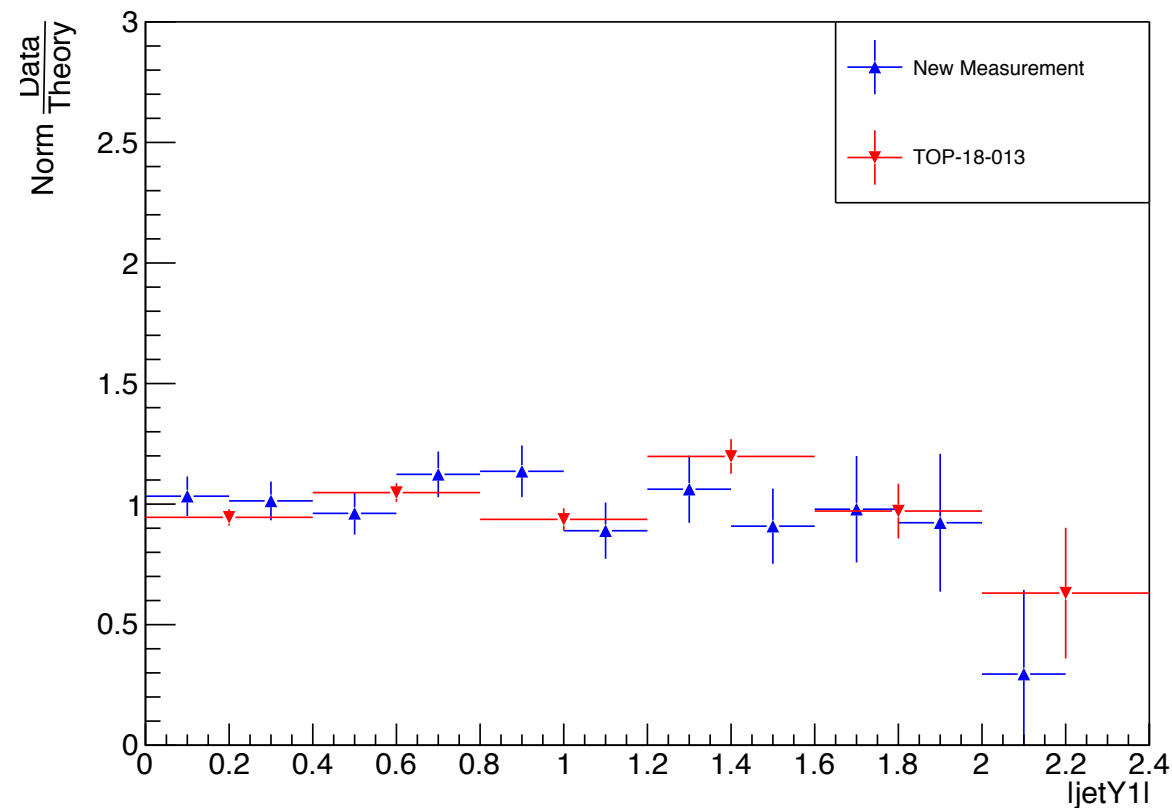


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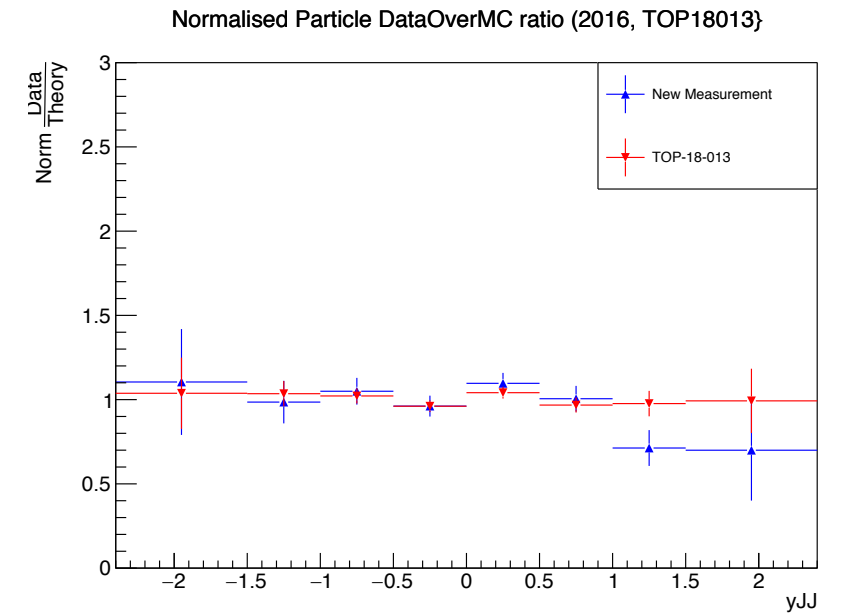
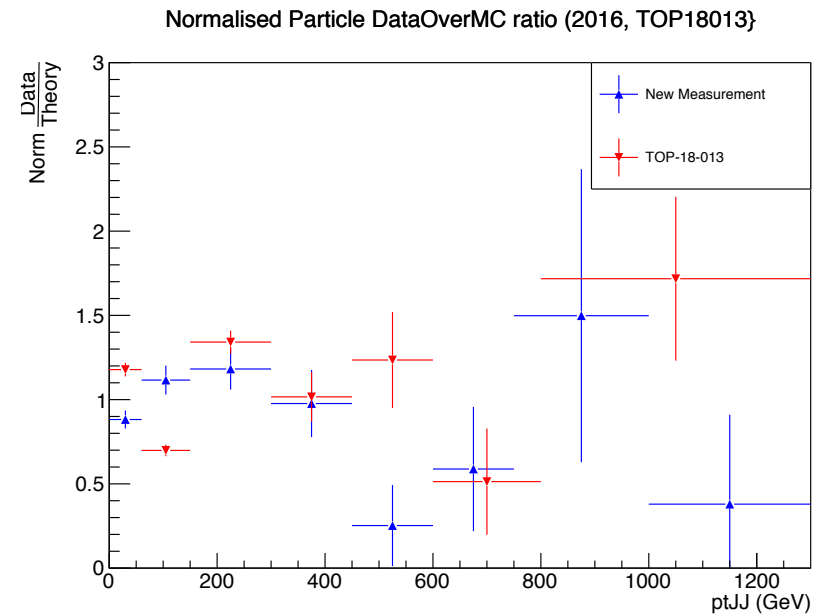
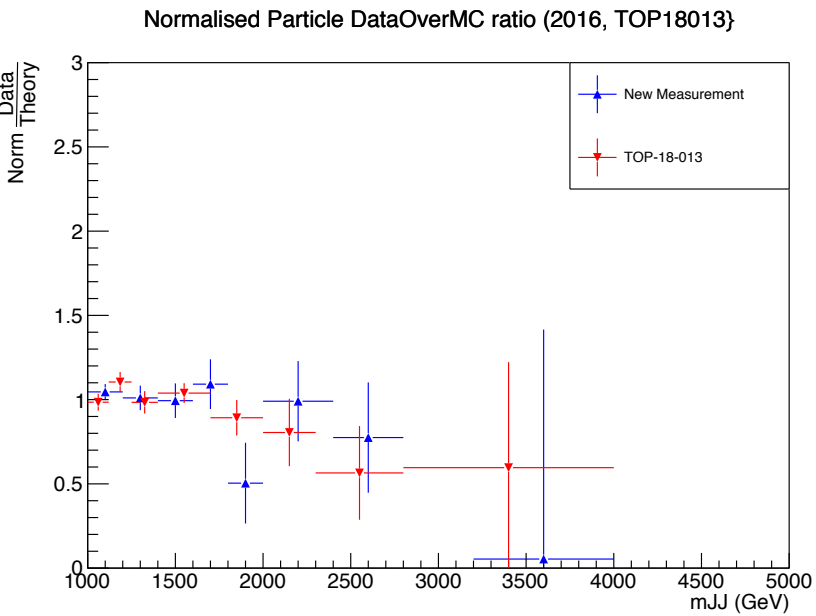
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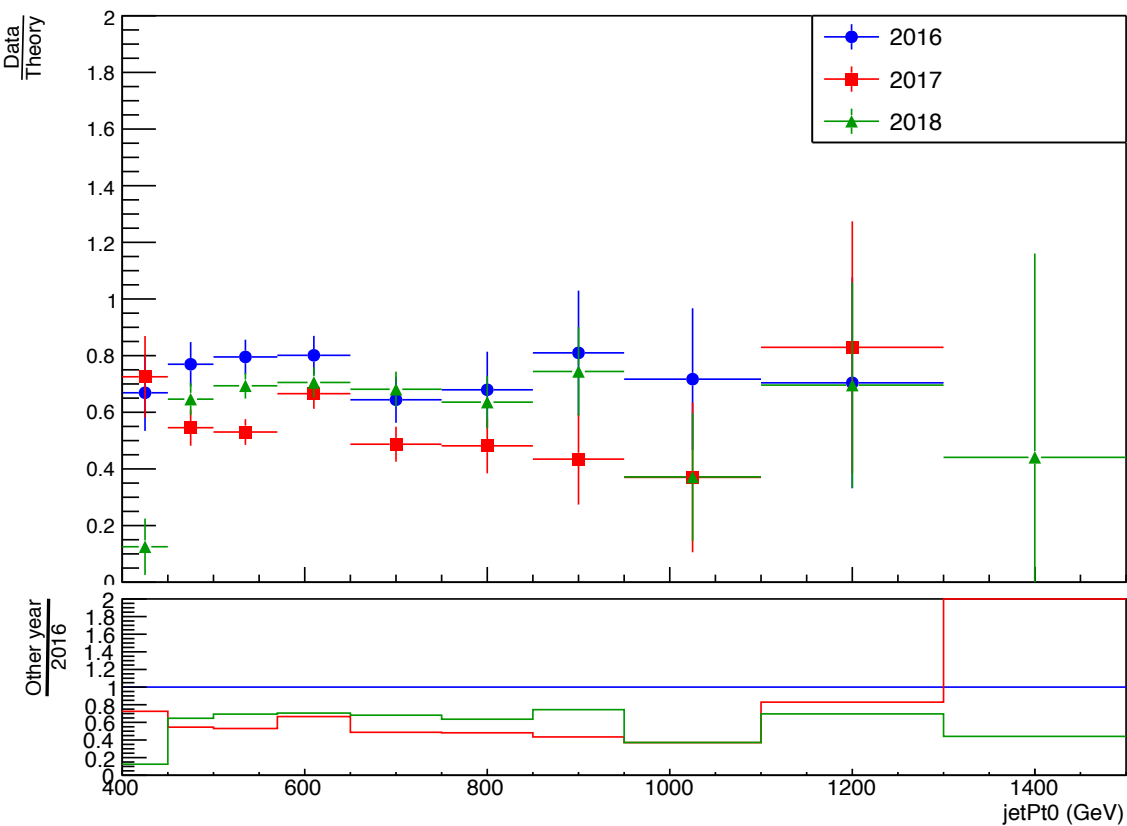


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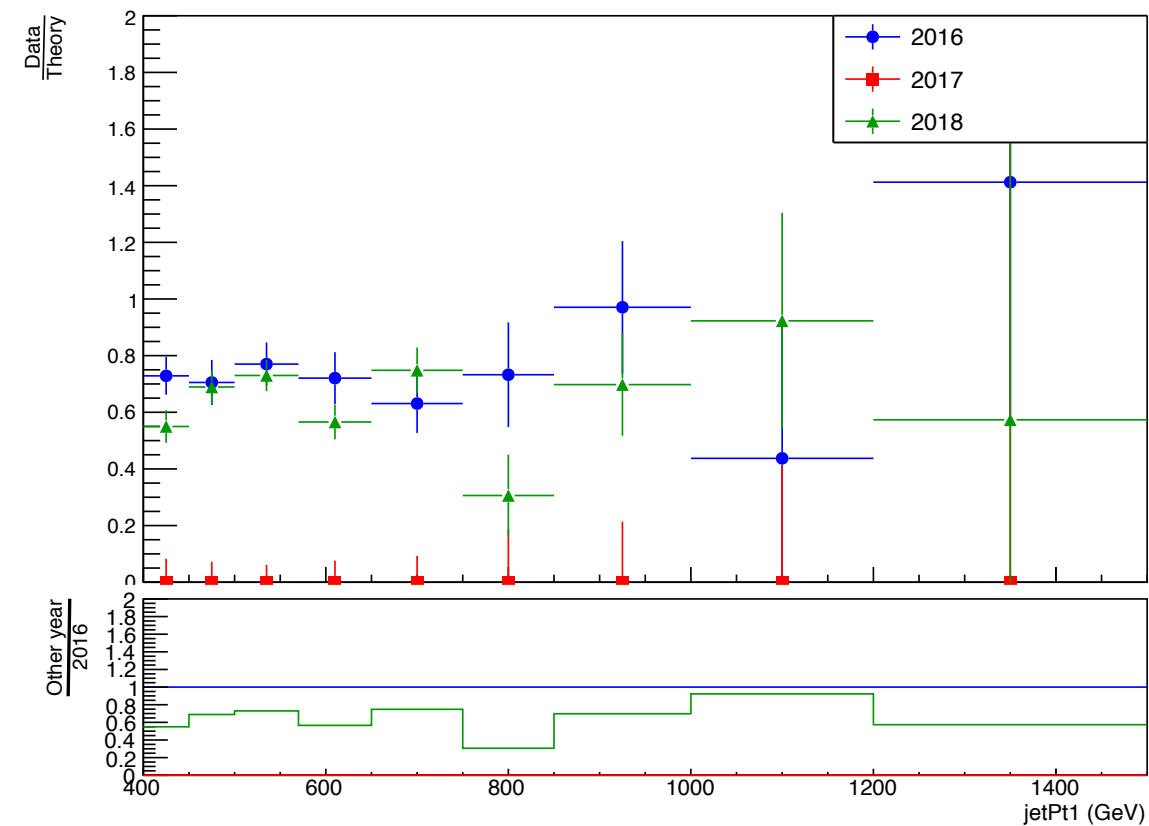


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Particle Unfolded Ratio Comparison ('16,'17,'18)

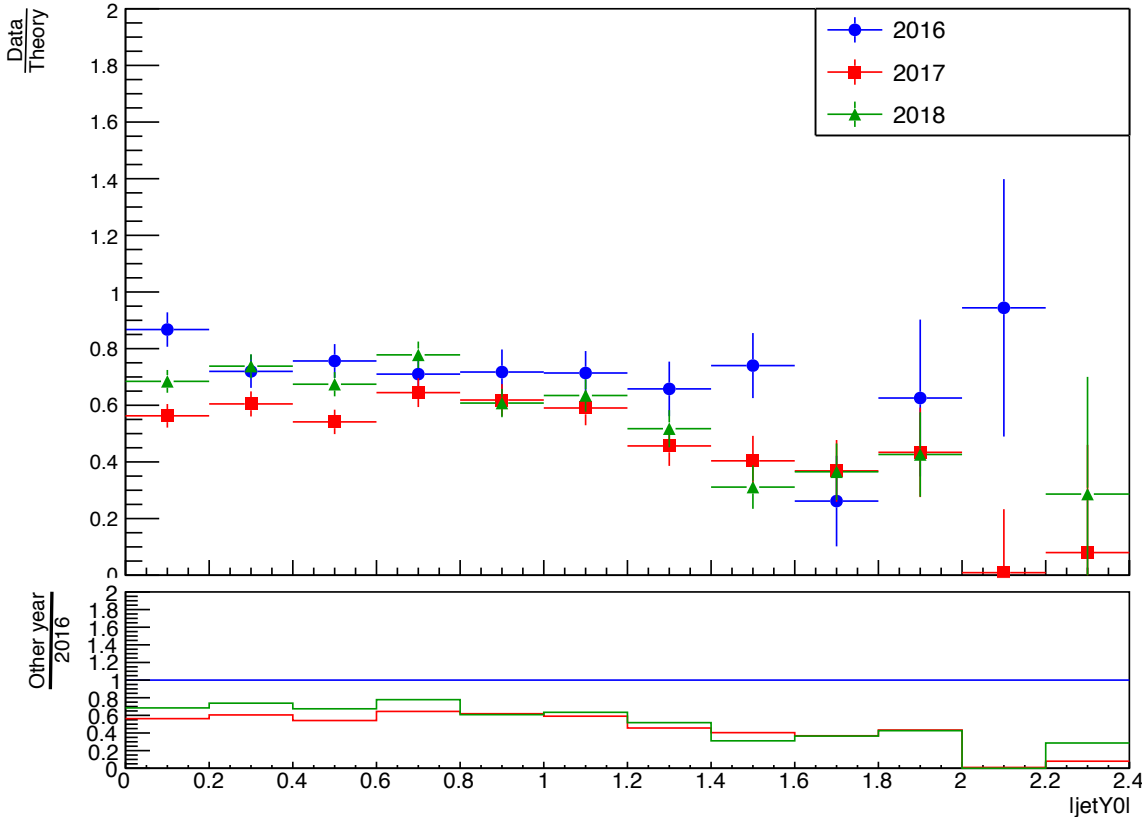


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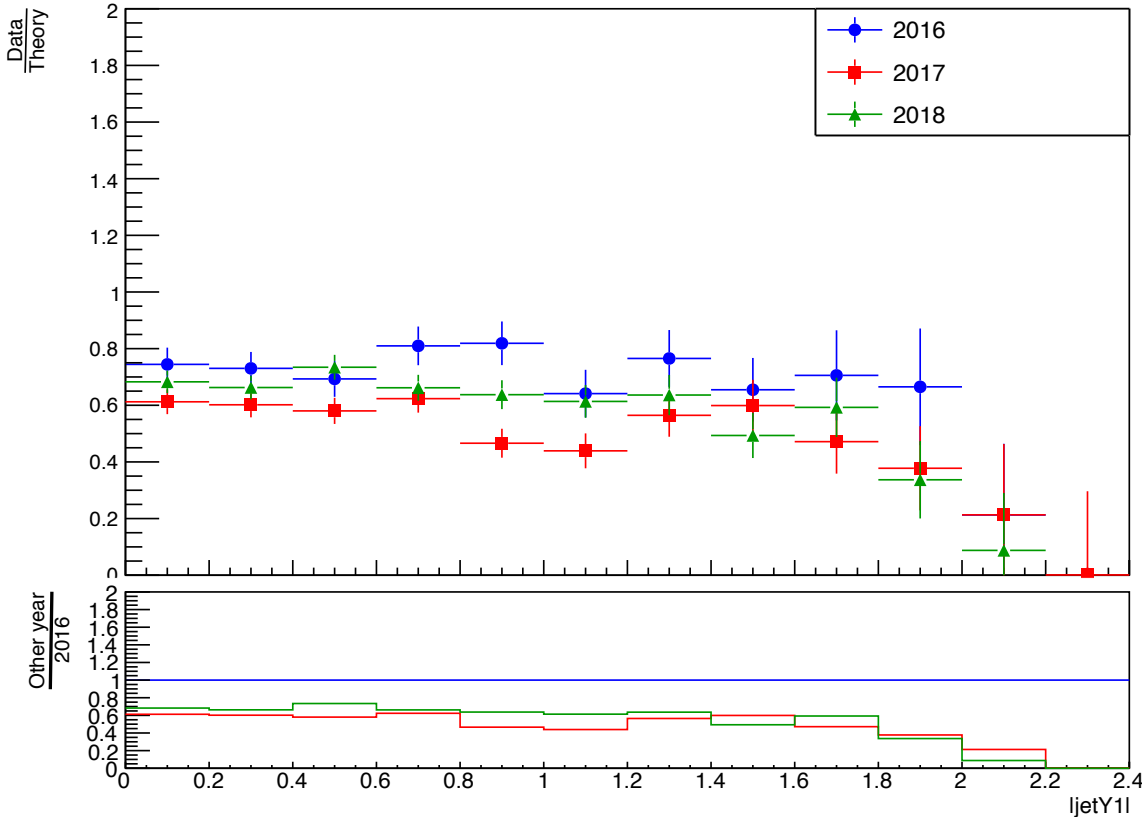


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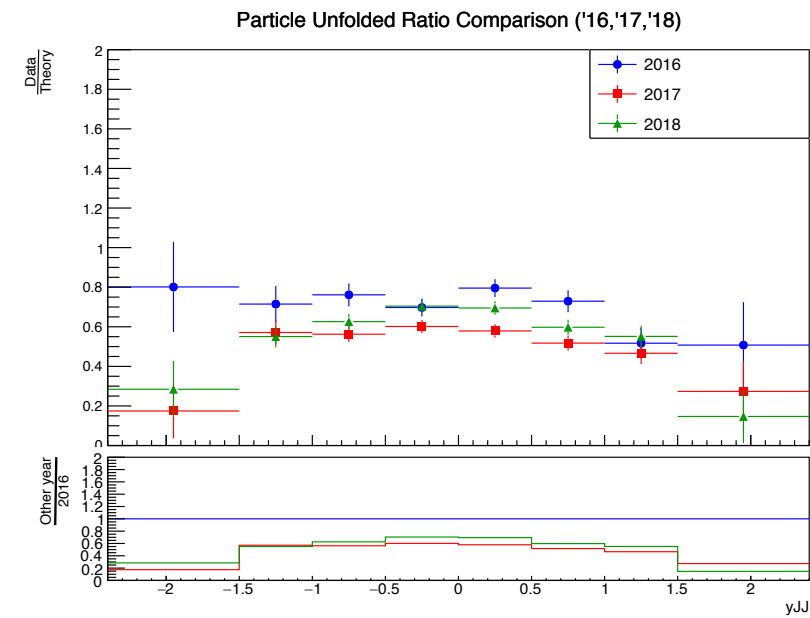
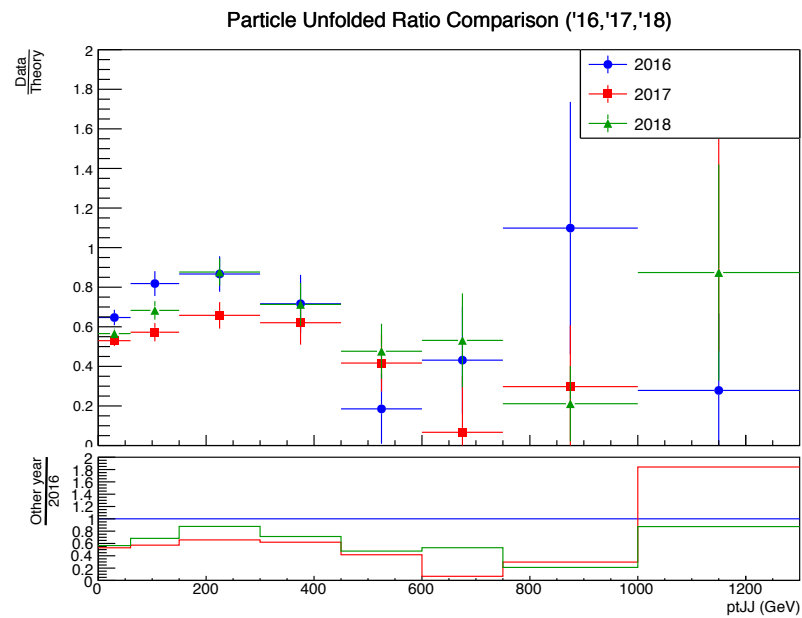
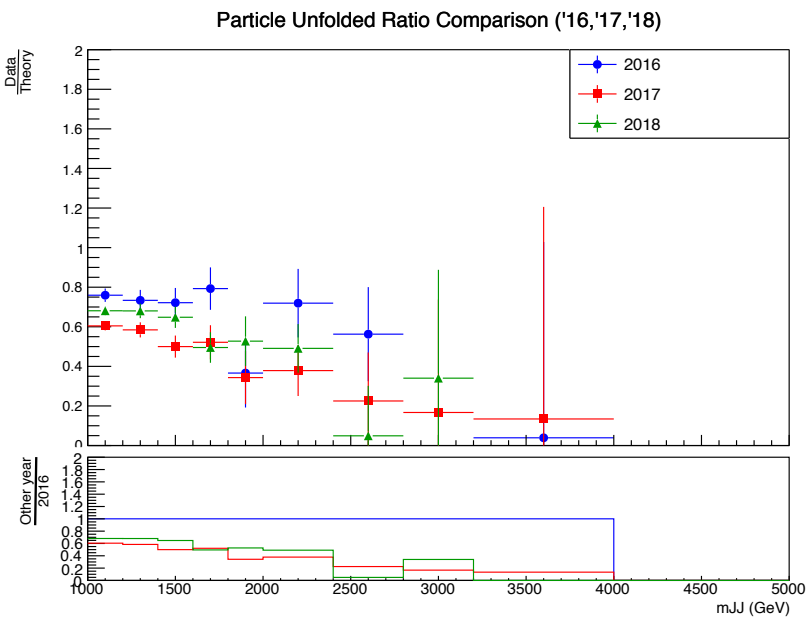
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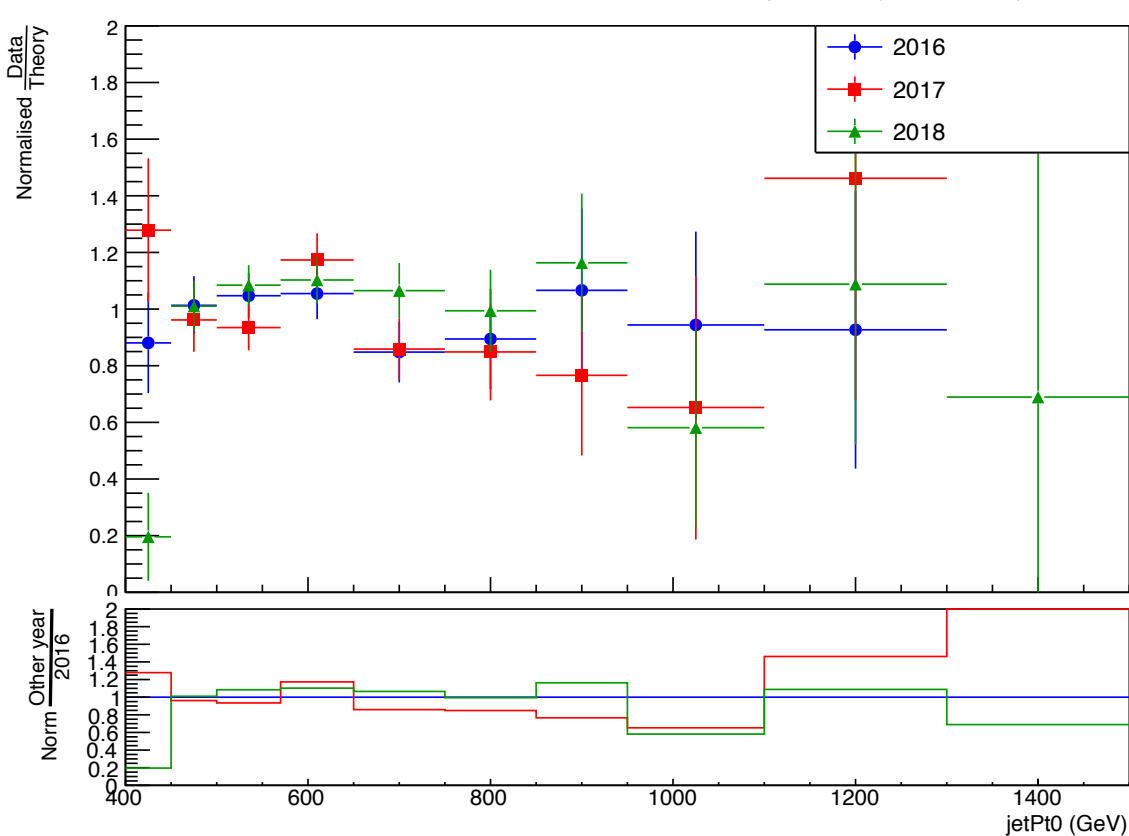


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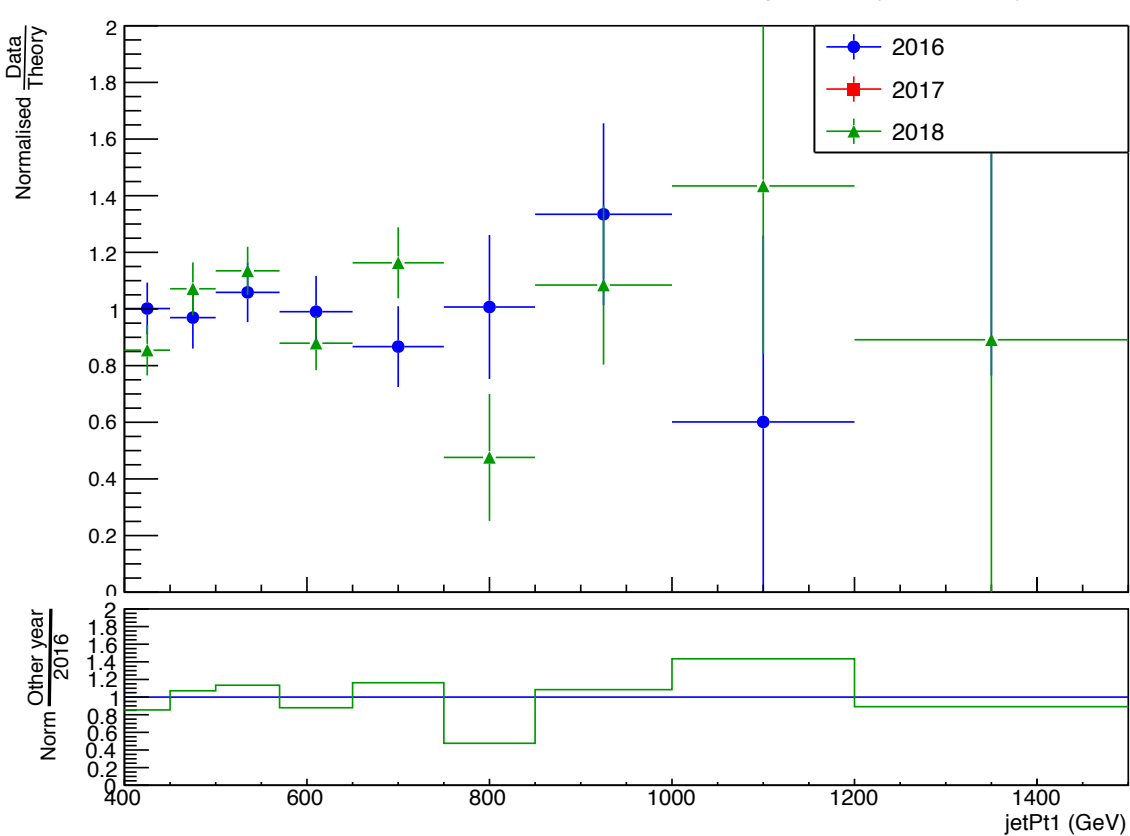


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Normalized Particle Unfolded Ratio Comparison ('16,'17,'18)

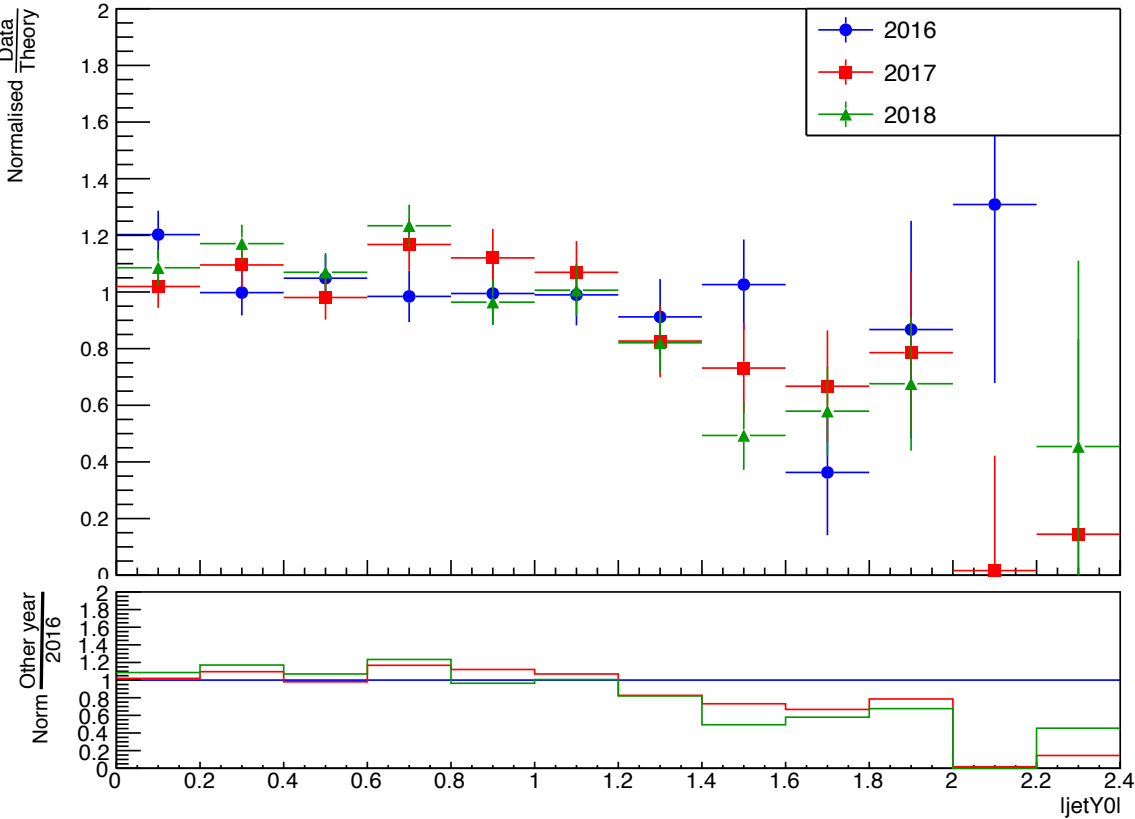


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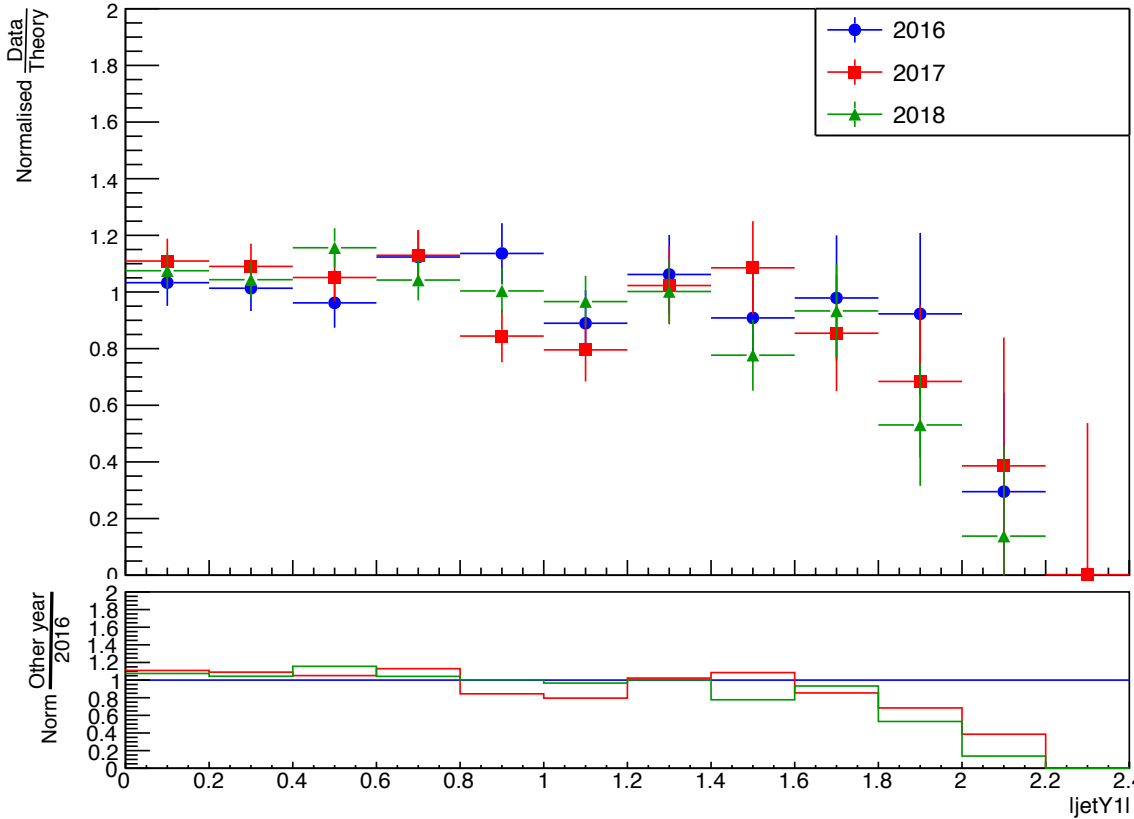


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