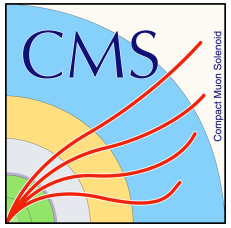
HEP Weekly Report
NTUA
17/6/2020

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

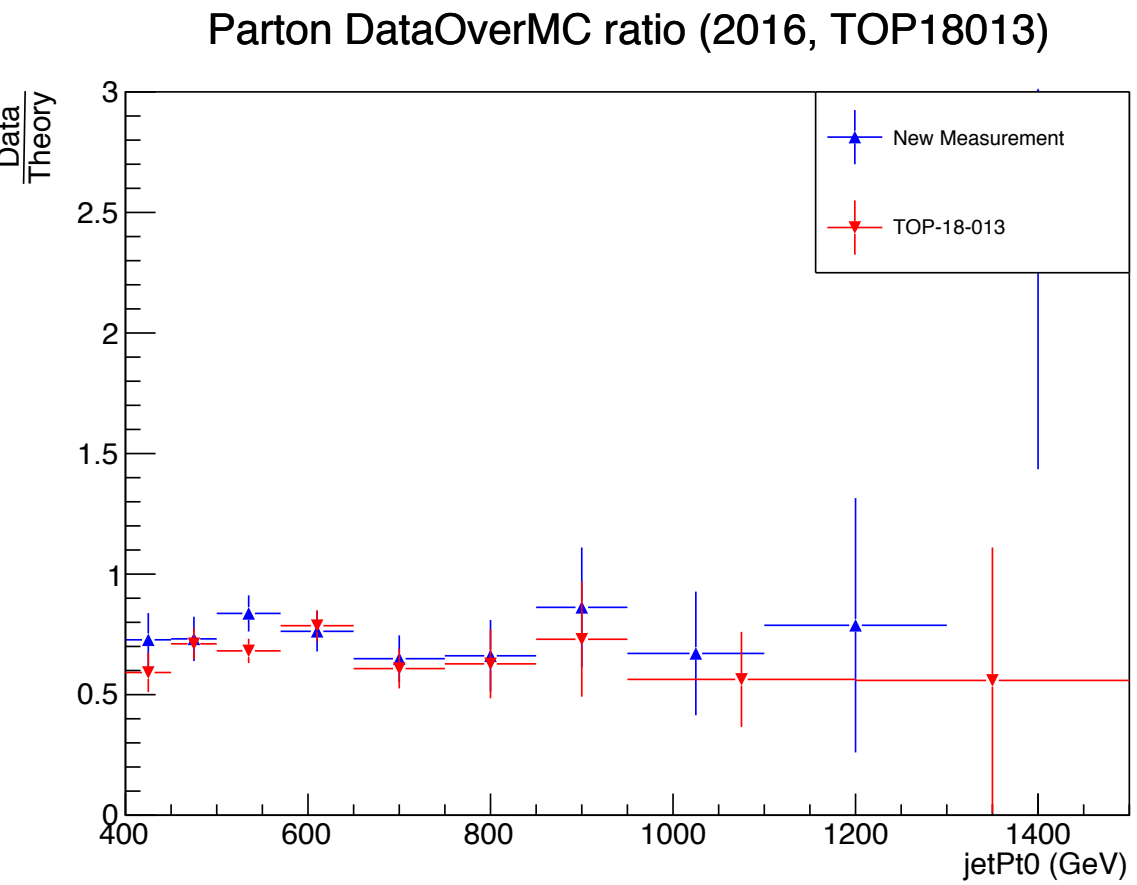
Signal Selection

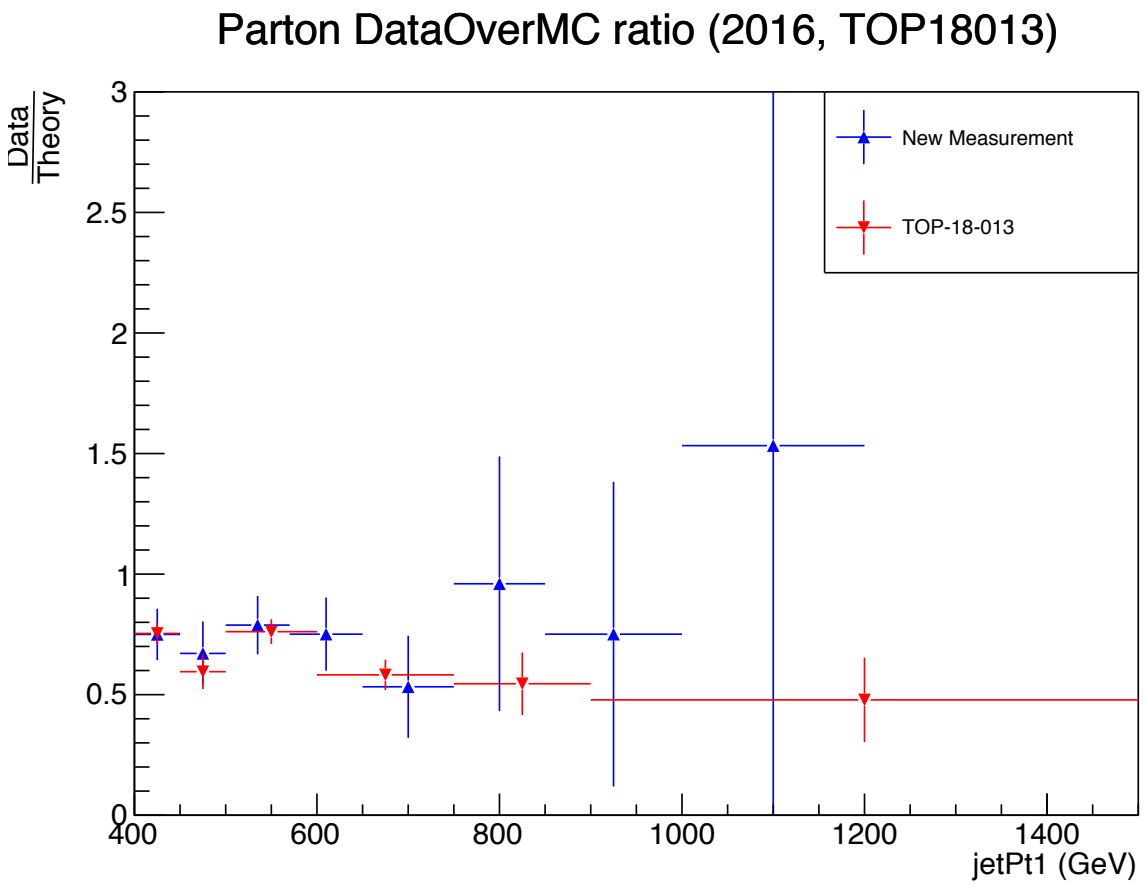
Variables	Selected Cut
pT (both leading jets)	> 400 GeV
Njets	> 1
N leptons	= 0
|eta| (both leading jets)	< 2.4
mJJ	> 1000 GeV
jetMassSoftDrop (only for fit)	(50,300) GeV
Top Tagger	> 0.2
B tagging (2 btagged jets)	> Medium WP
Signal Trigger	

Control Region Selection

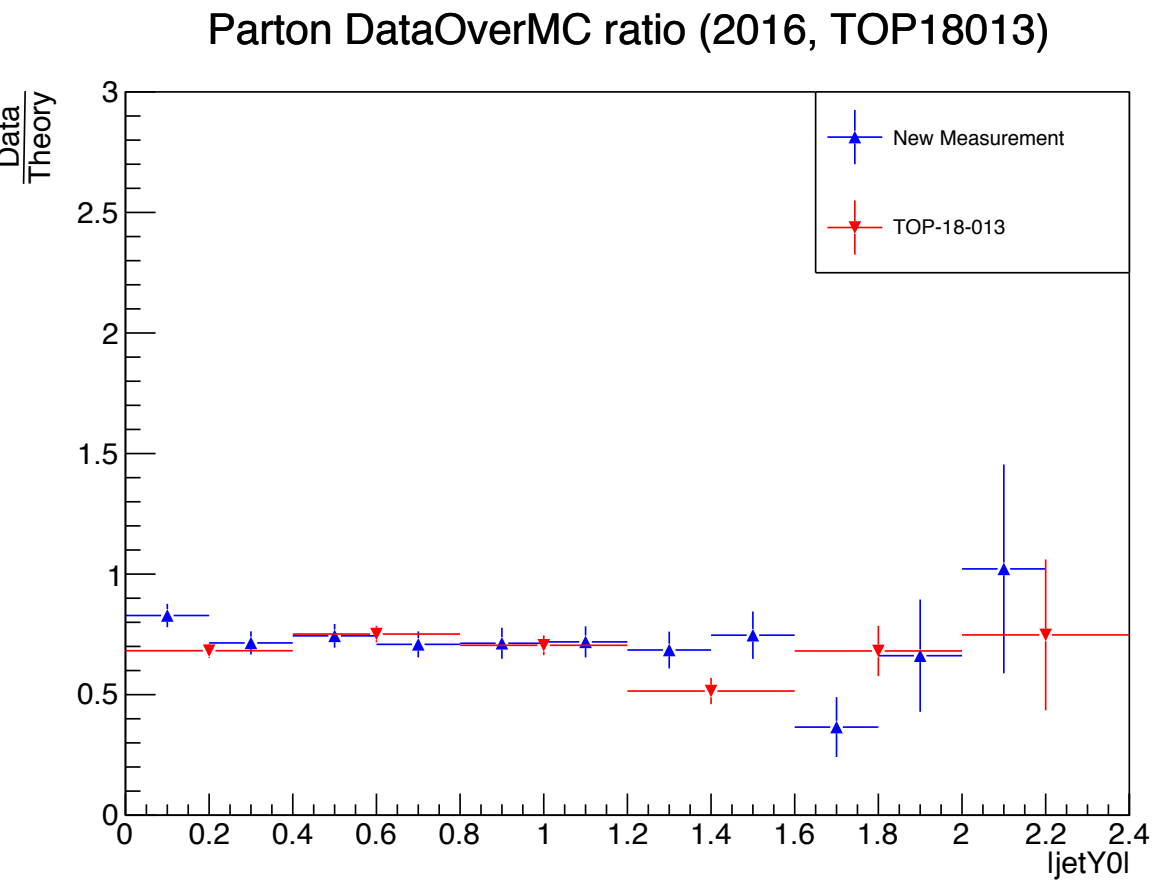
Variables	Selected Cut
pT (both leading jets)	> 400 GeV
Njets	> 1
N leptons	= 0
|eta| (both leading jets)	< 2.4
mJJ	> 1000 GeV
jetMassSoftDrop (only for fit)	(50,300) GeV
Top Tagger	> 0.2
B tagging (0 btagged jets)	< Medium WP
Control Trigger	

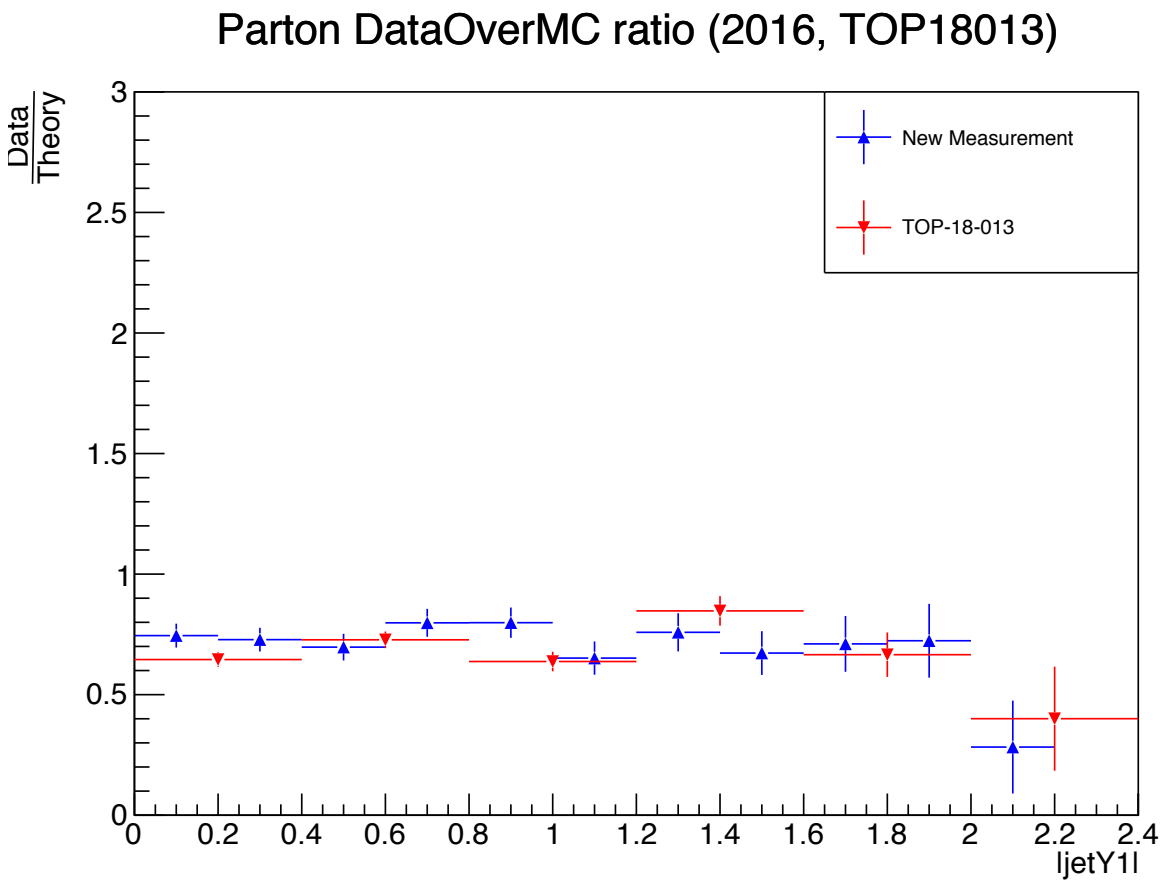
Differential Cross Section Measurements (Parton) 2016 Double Ratio



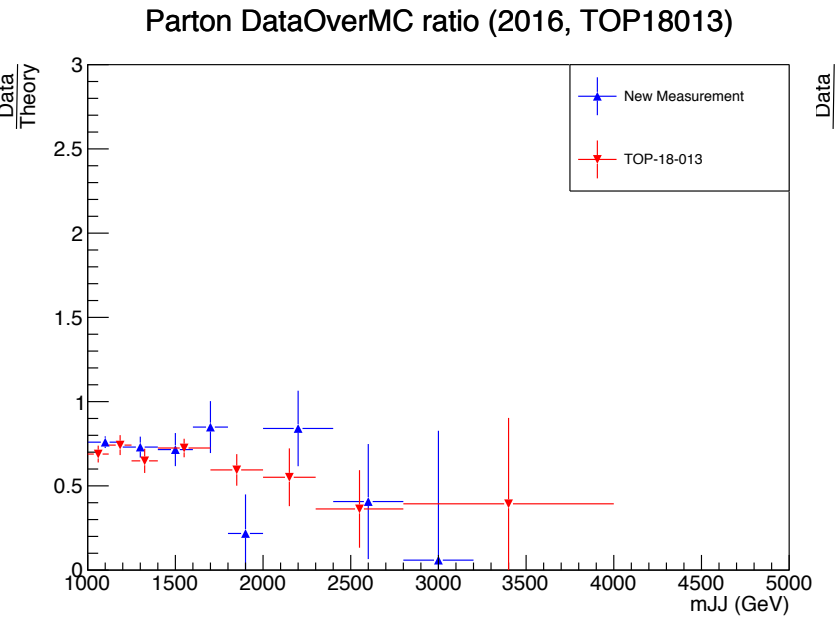


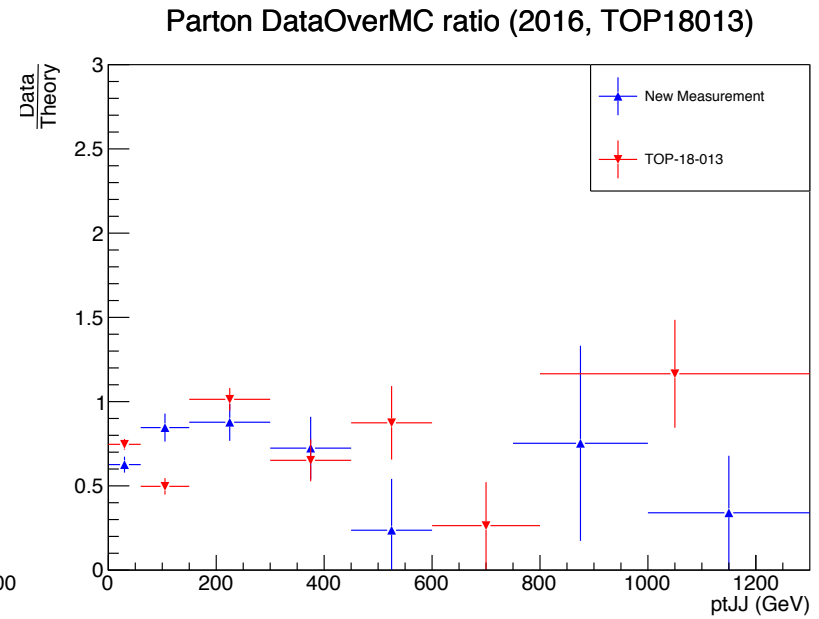
Differential Cross Section Measurements (Parton) 2016 Double Ratio

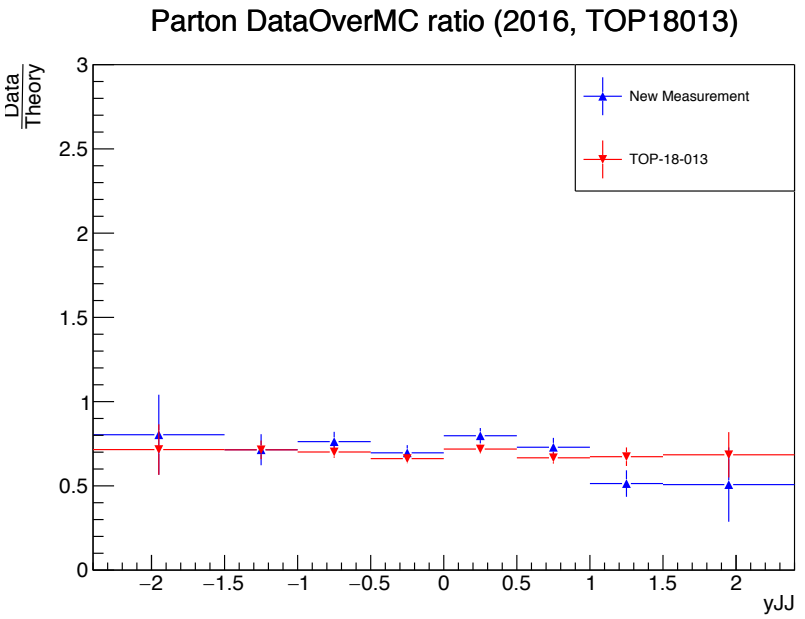




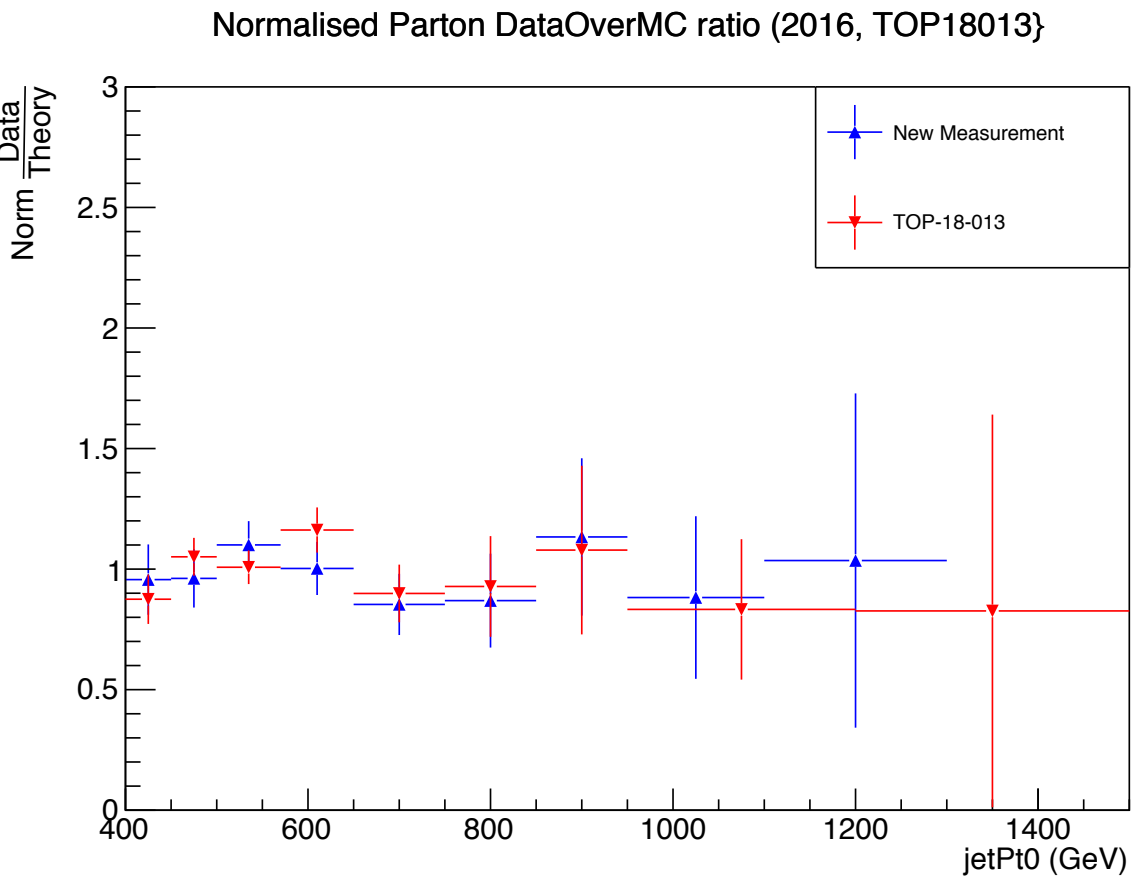
Differential Cross Section Measurements (Parton) 2016 Double Ratio

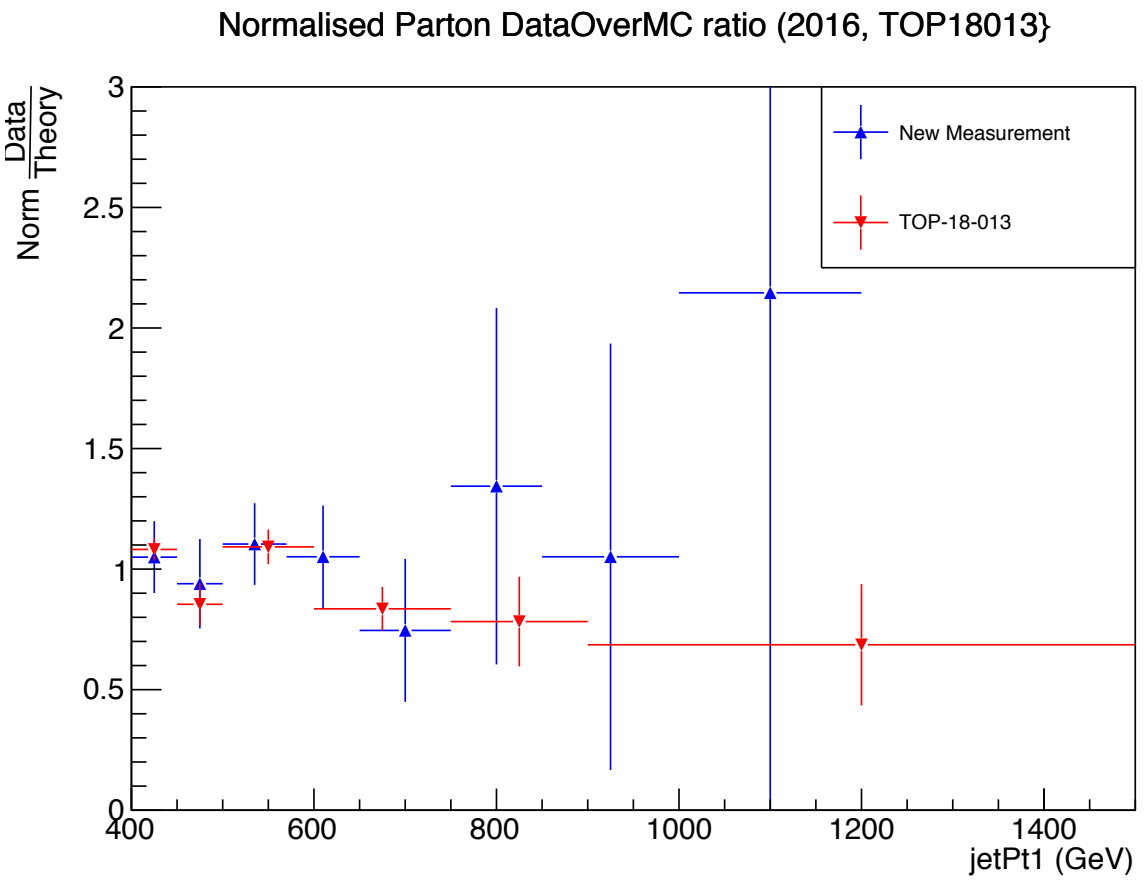




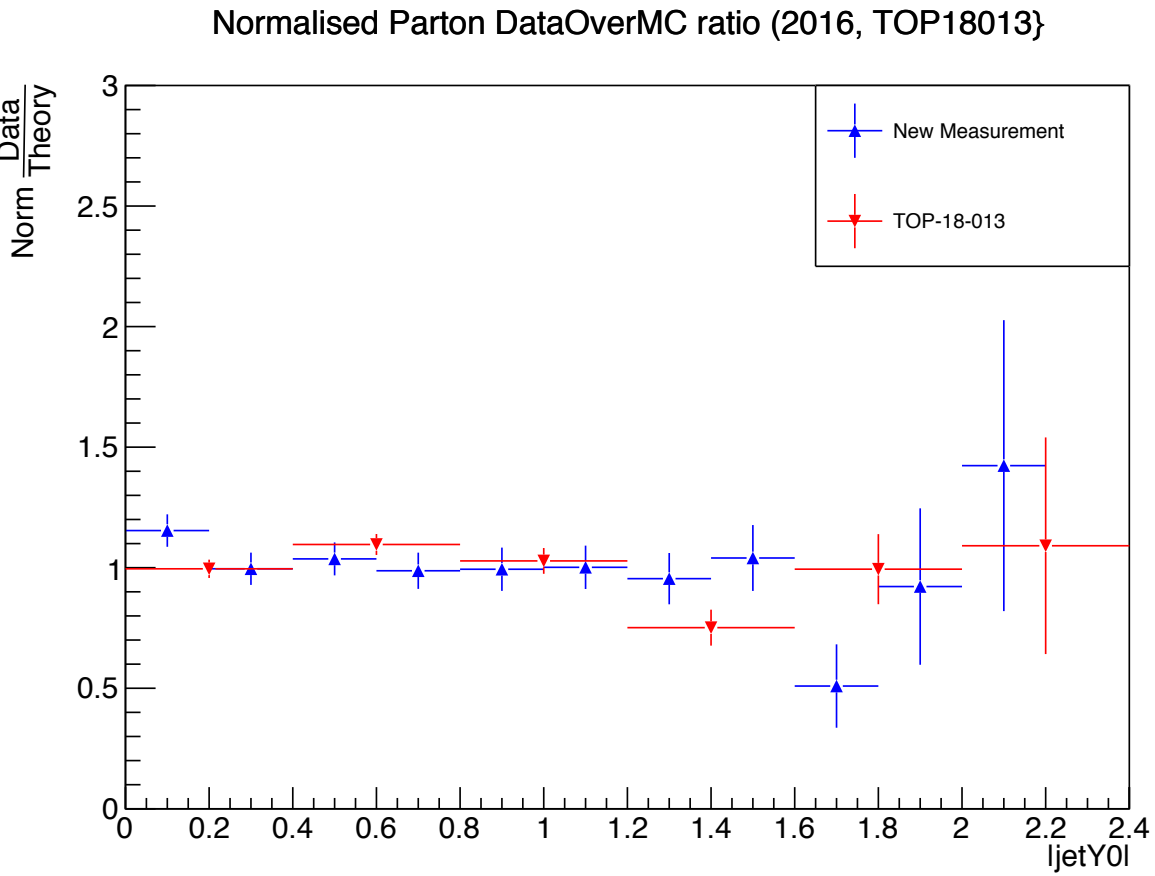


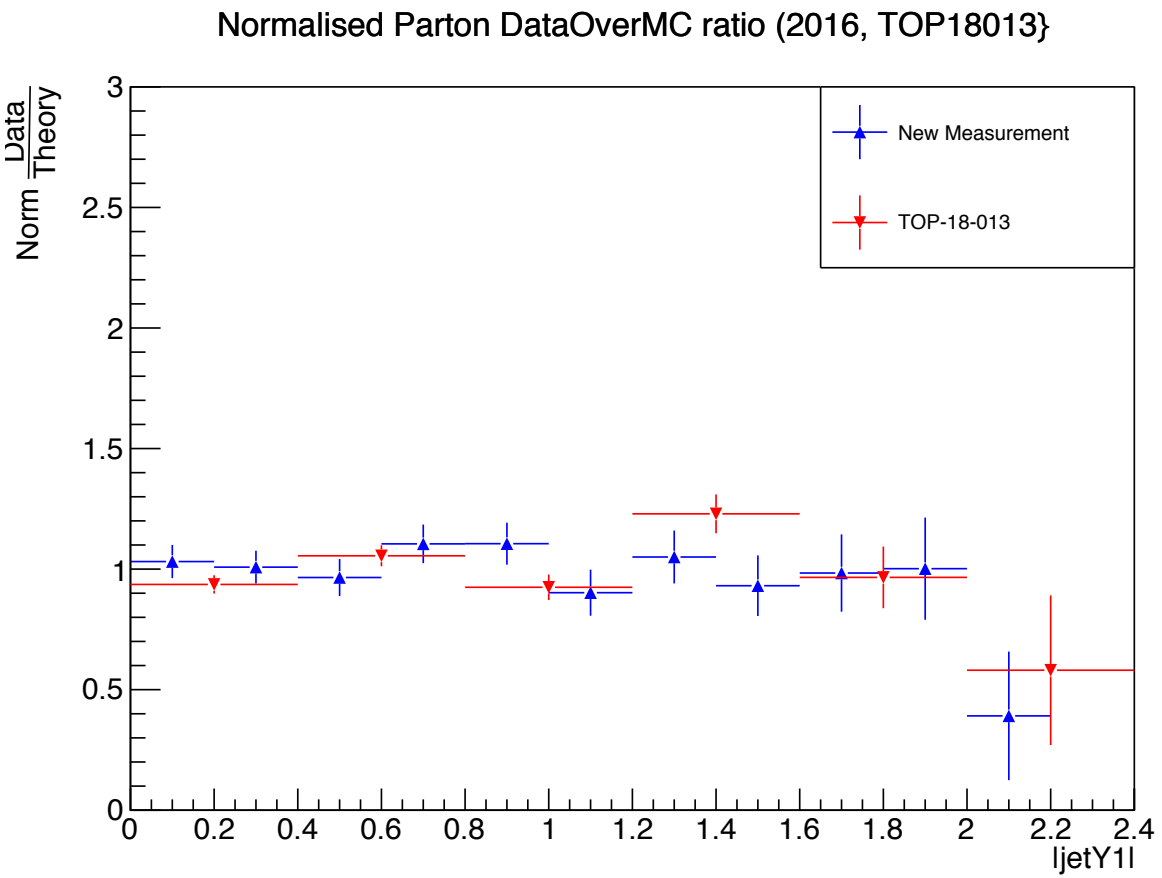
Differential Cross Section Measurements (Parton) 2016 Double Ratio Norm



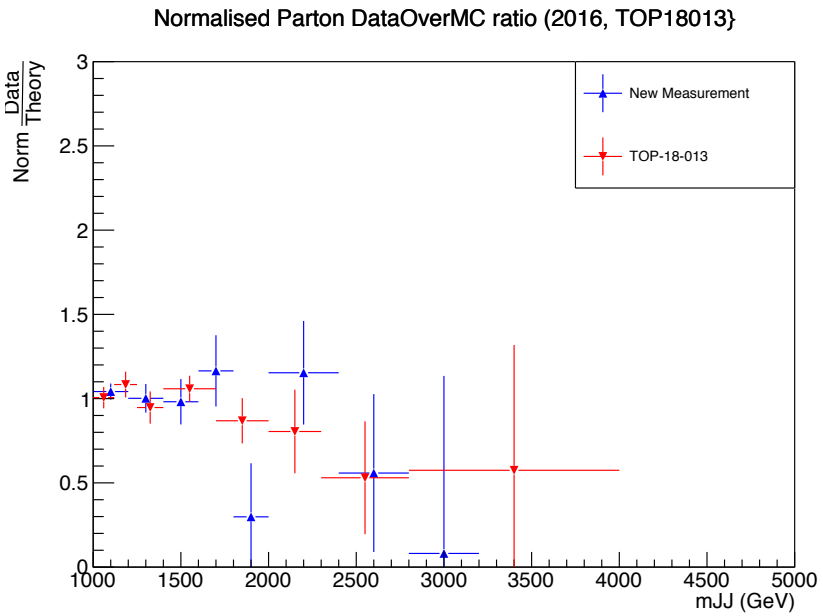


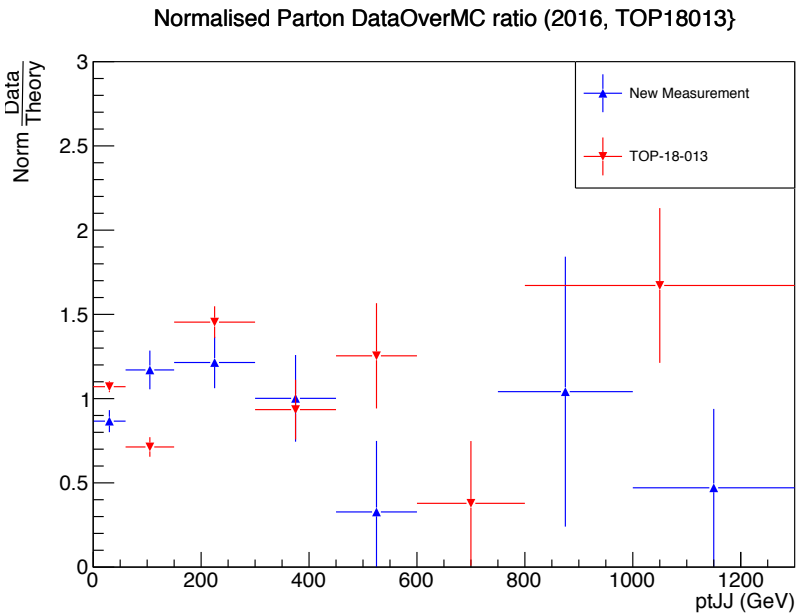
Differential Cross Section Measurements (Parton) 2016 Double Ratio Norm

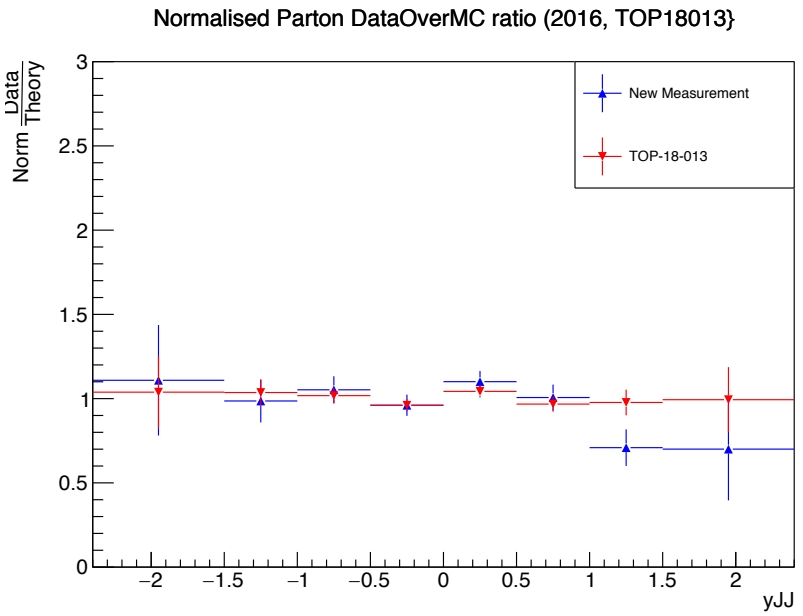




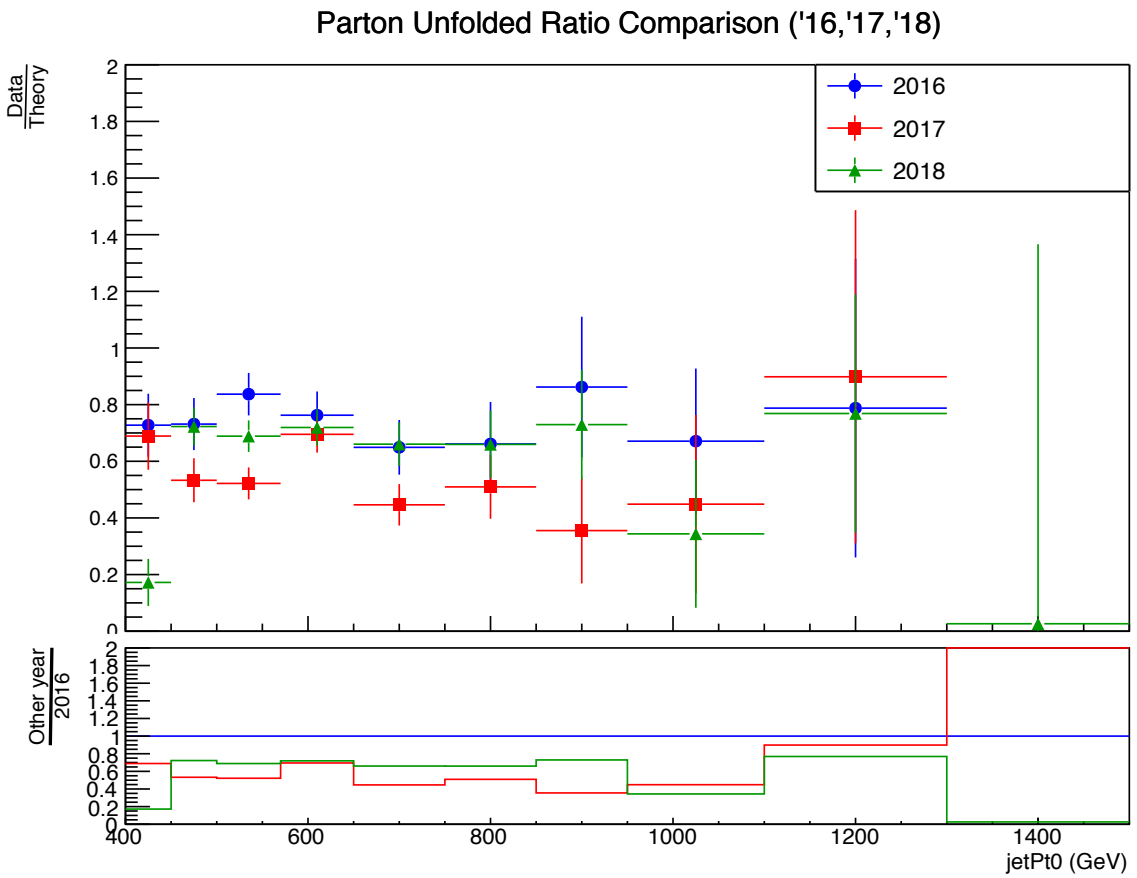
Differential Cross Section Measurements (Parton) 2016 Double Ratio Norm

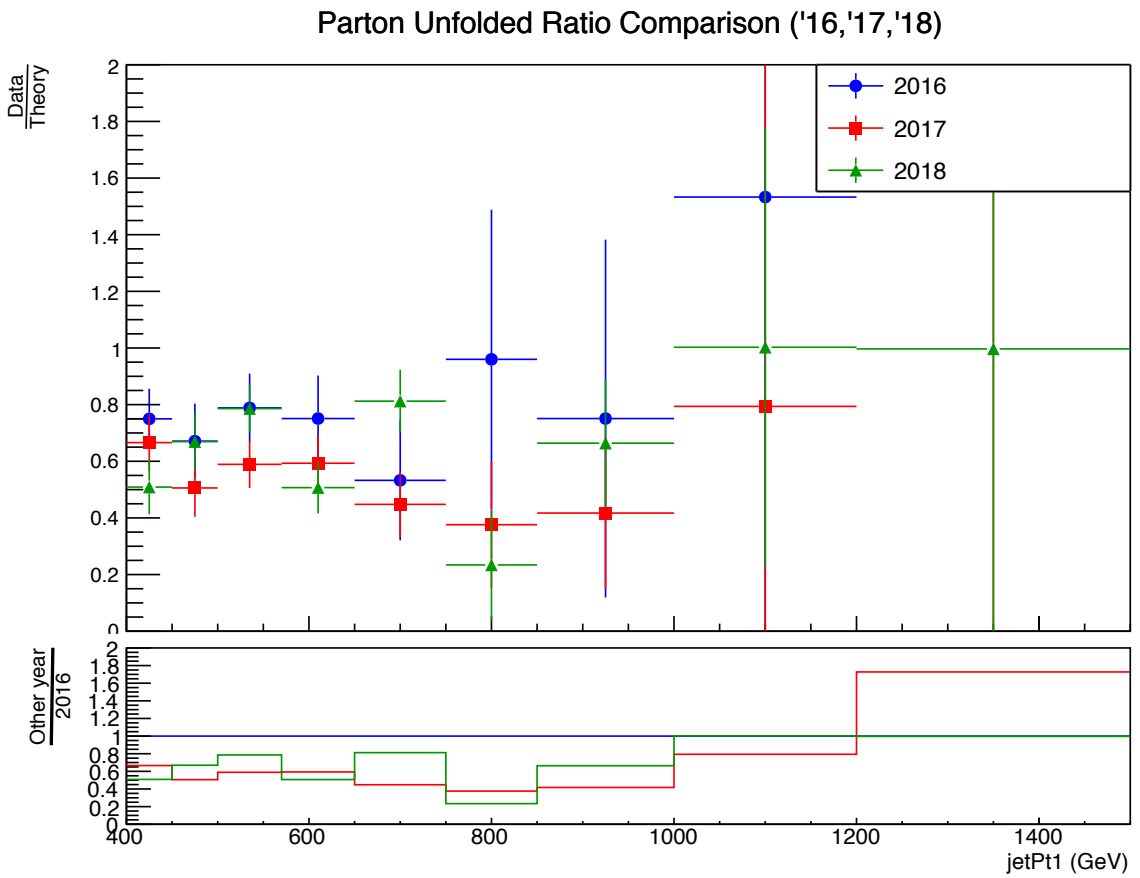




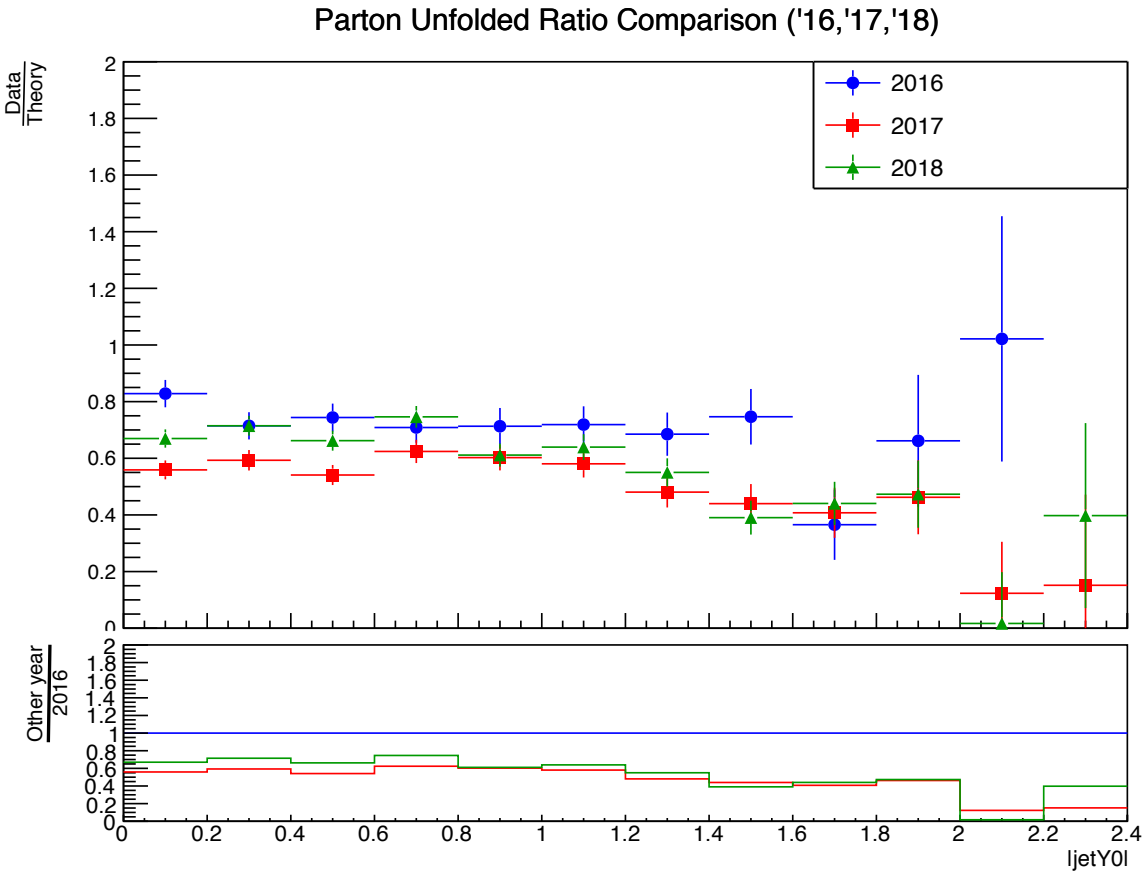


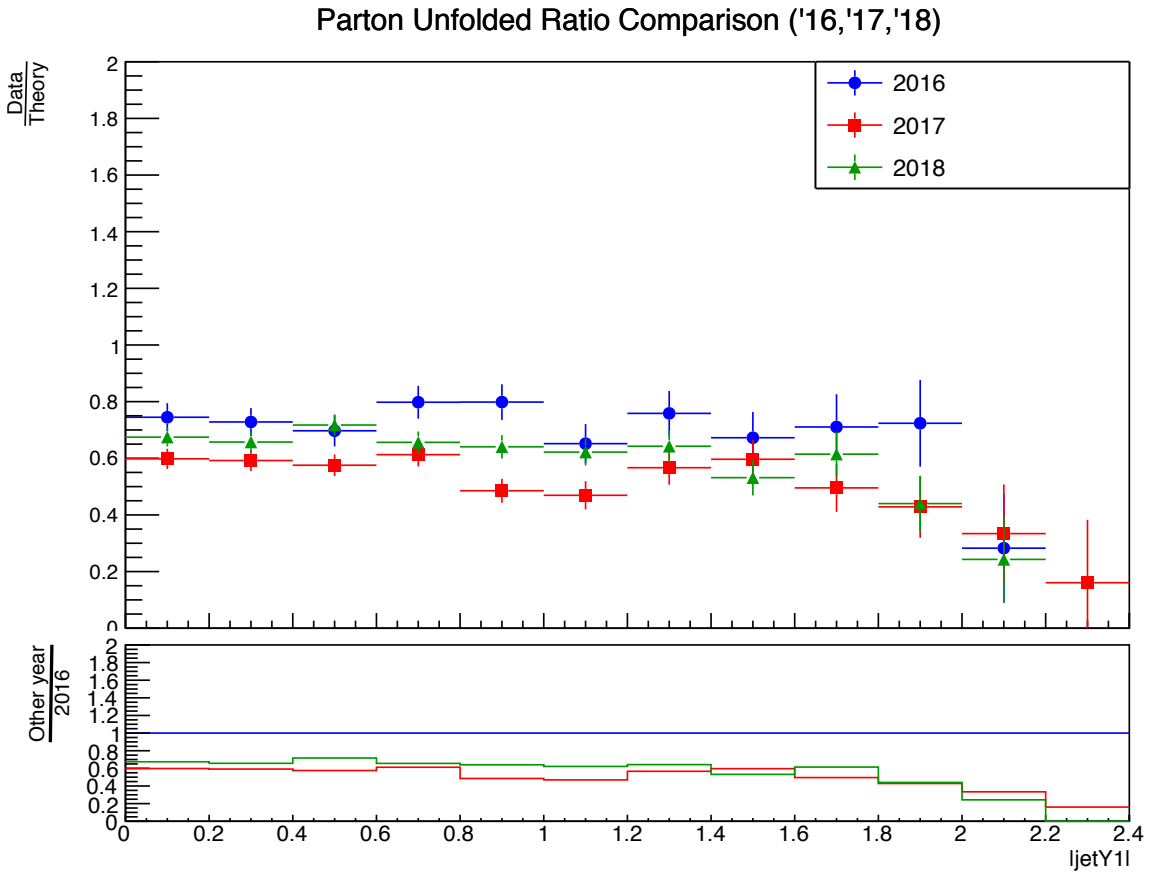
Differential Cross Section Measurements (Parton) over All years Double Ratio



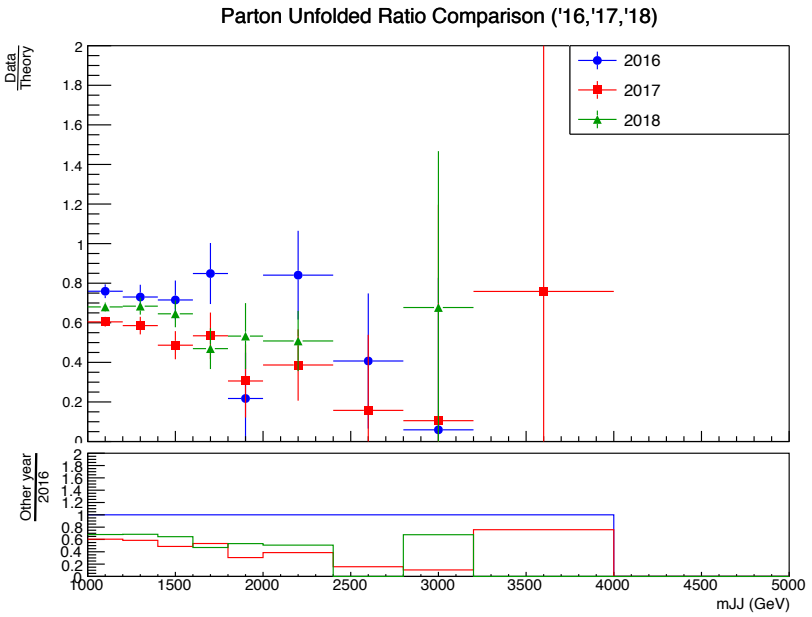


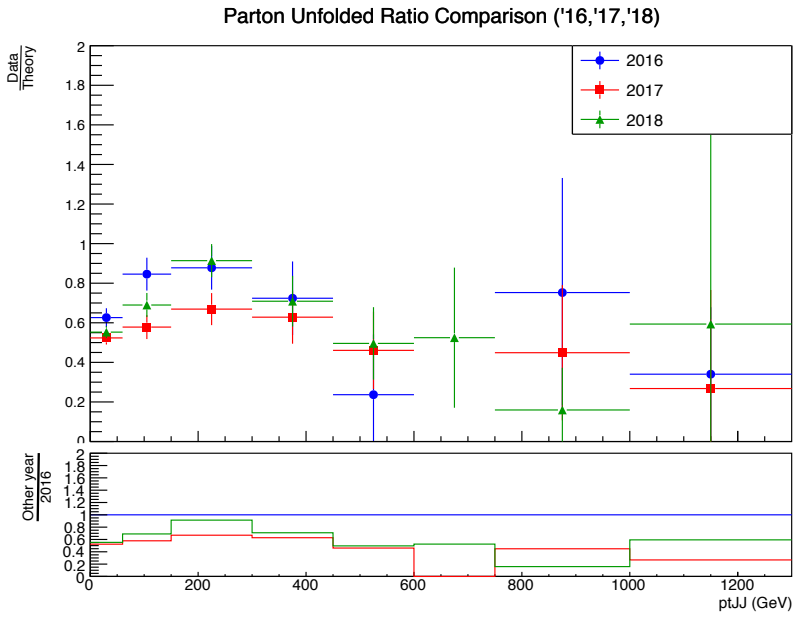
Differential Cross Section Measurements (Parton) over All years Double Ratio

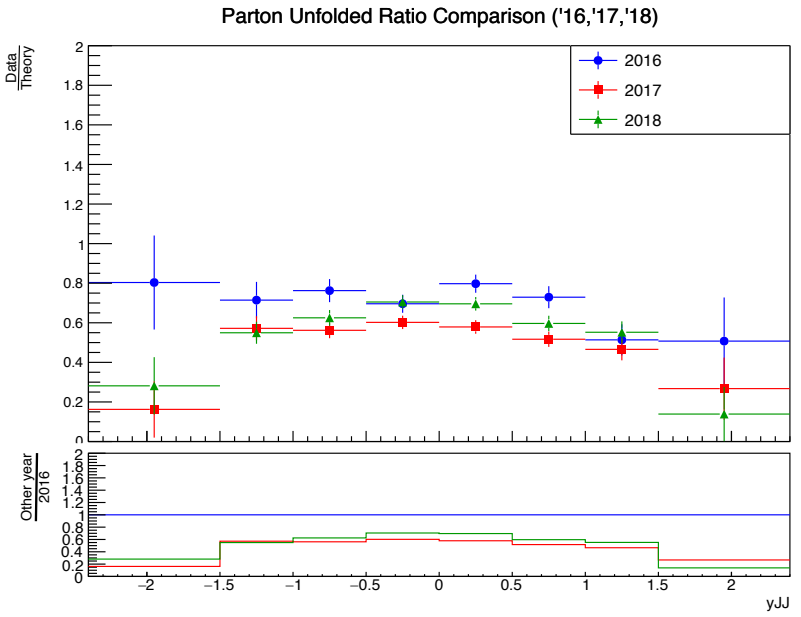




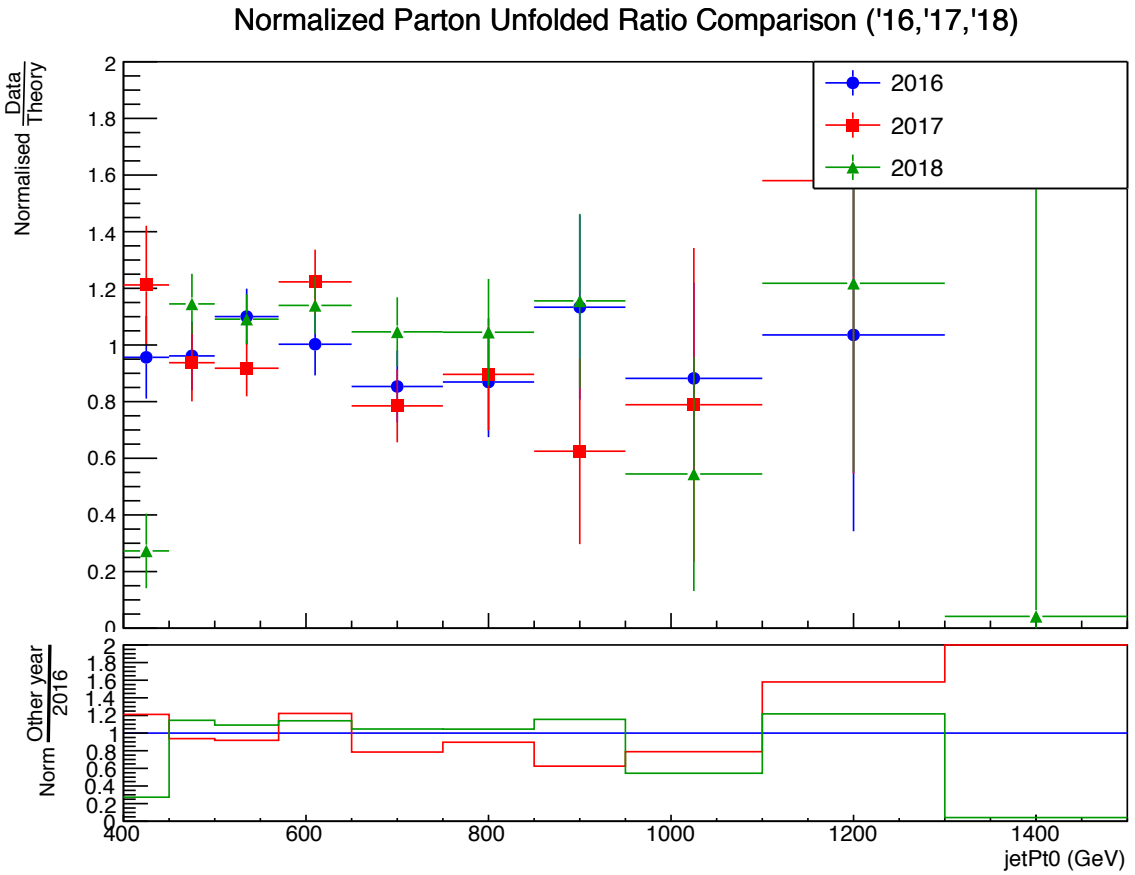
Differential Cross Section Measurements (Parton) over All years Double Ratio

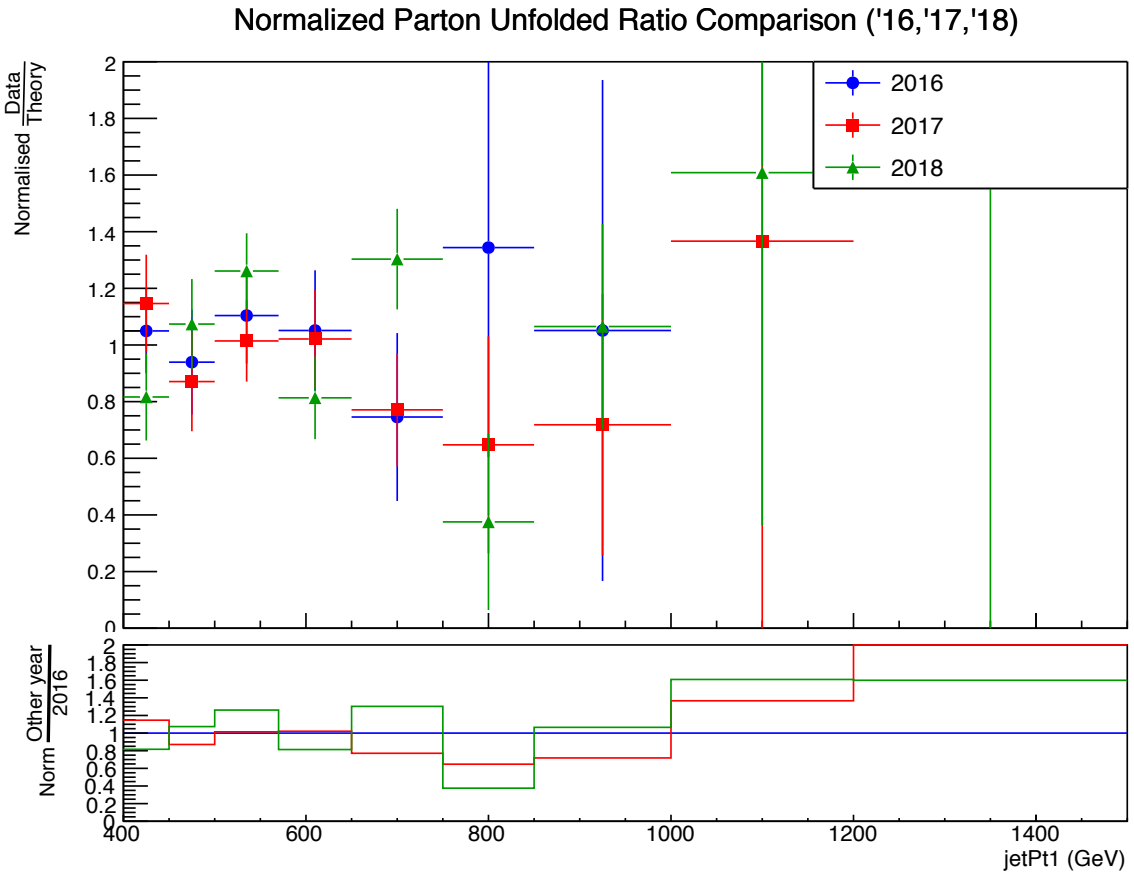




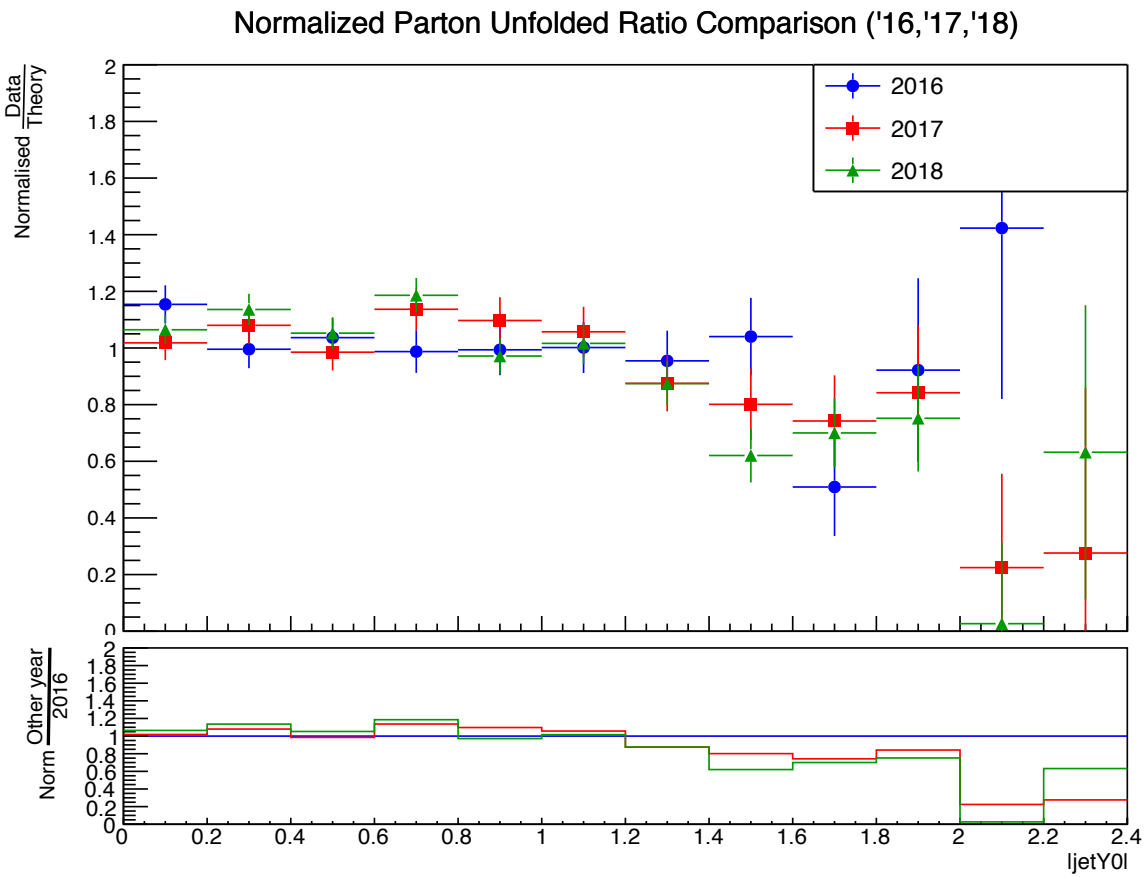


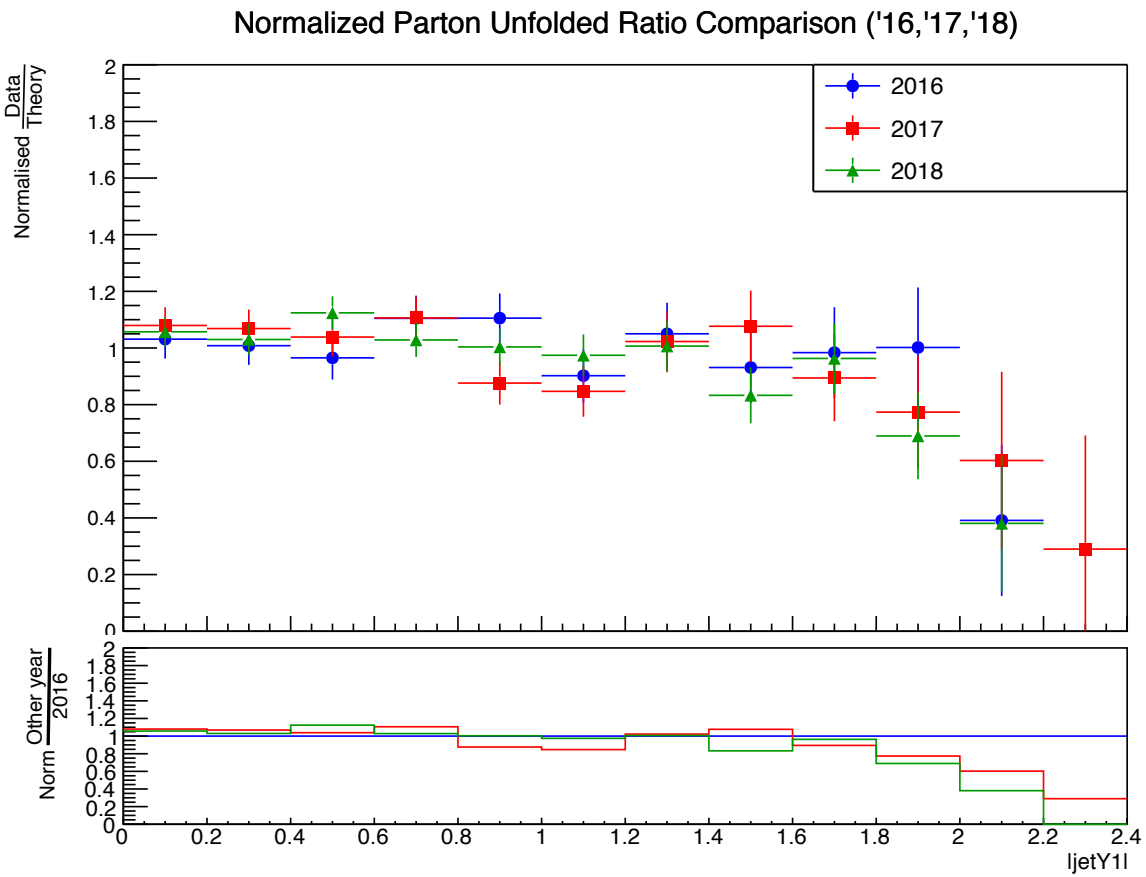
Differential Cross Section Measurements (Parton) over All years Double Ratio Norm



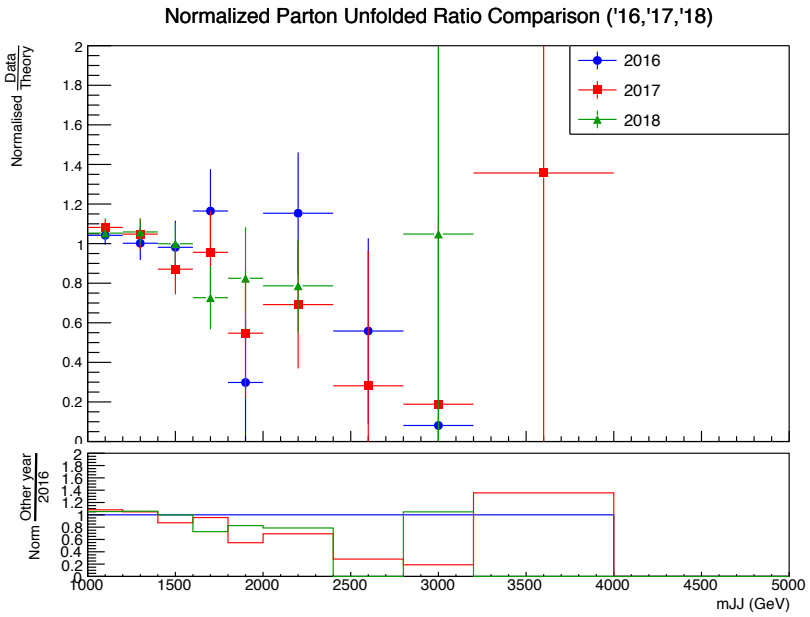


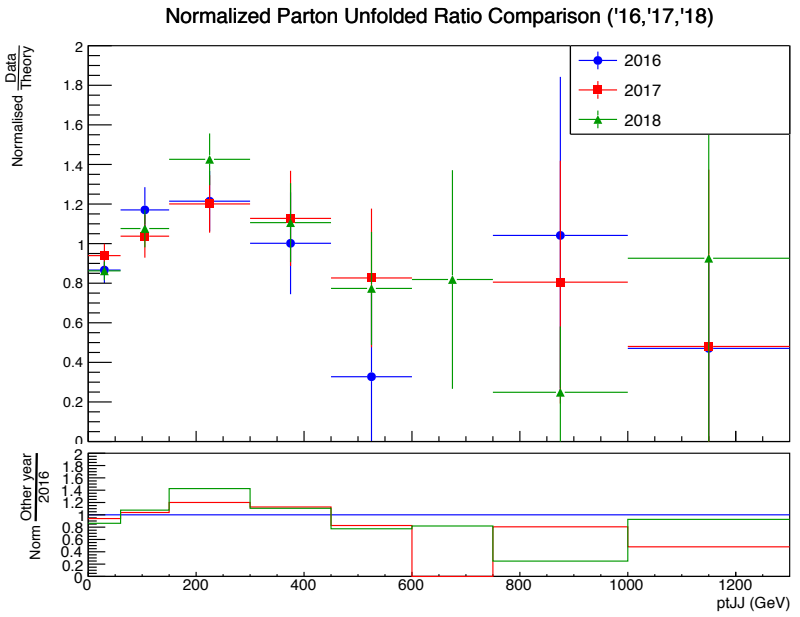
Differential Cross Section Measurements (Parton) over All years Double Ratio Norm

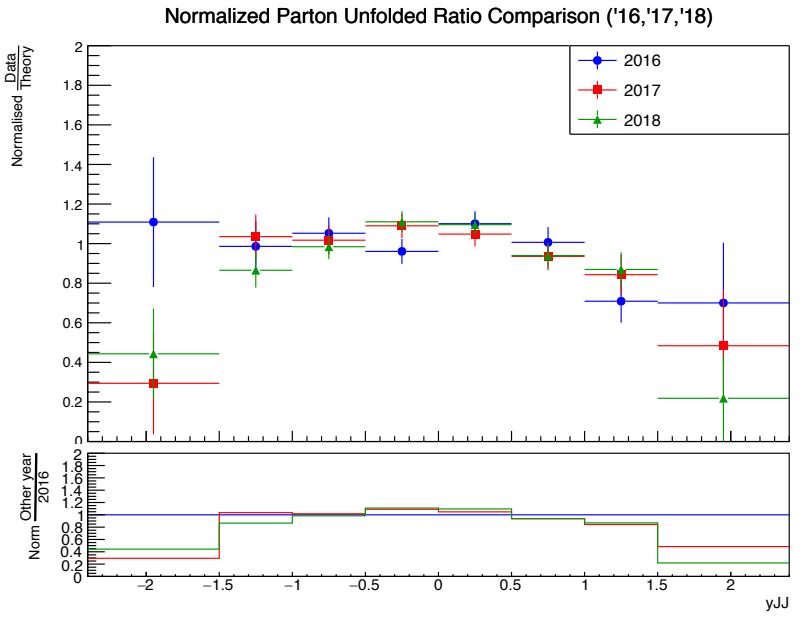




Differential Cross Section Measurements (Parton) over All years Double Ratio Norm

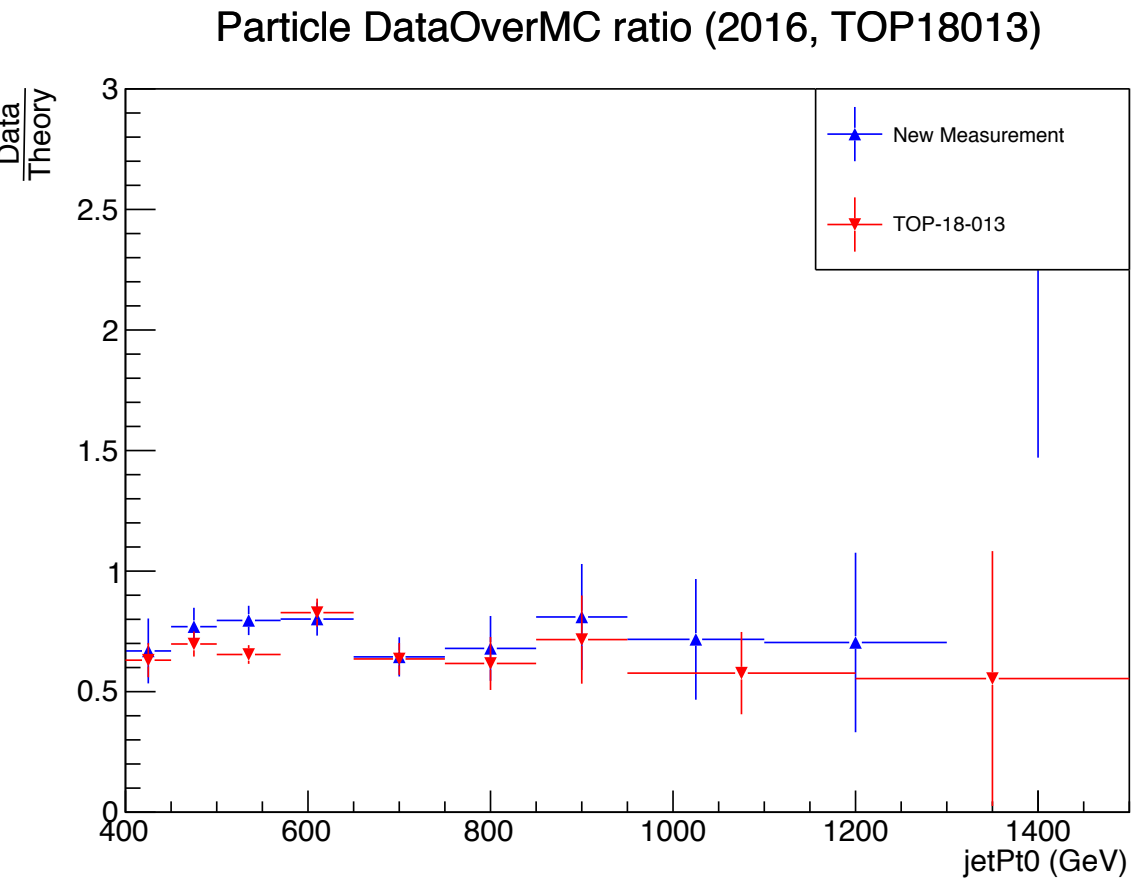


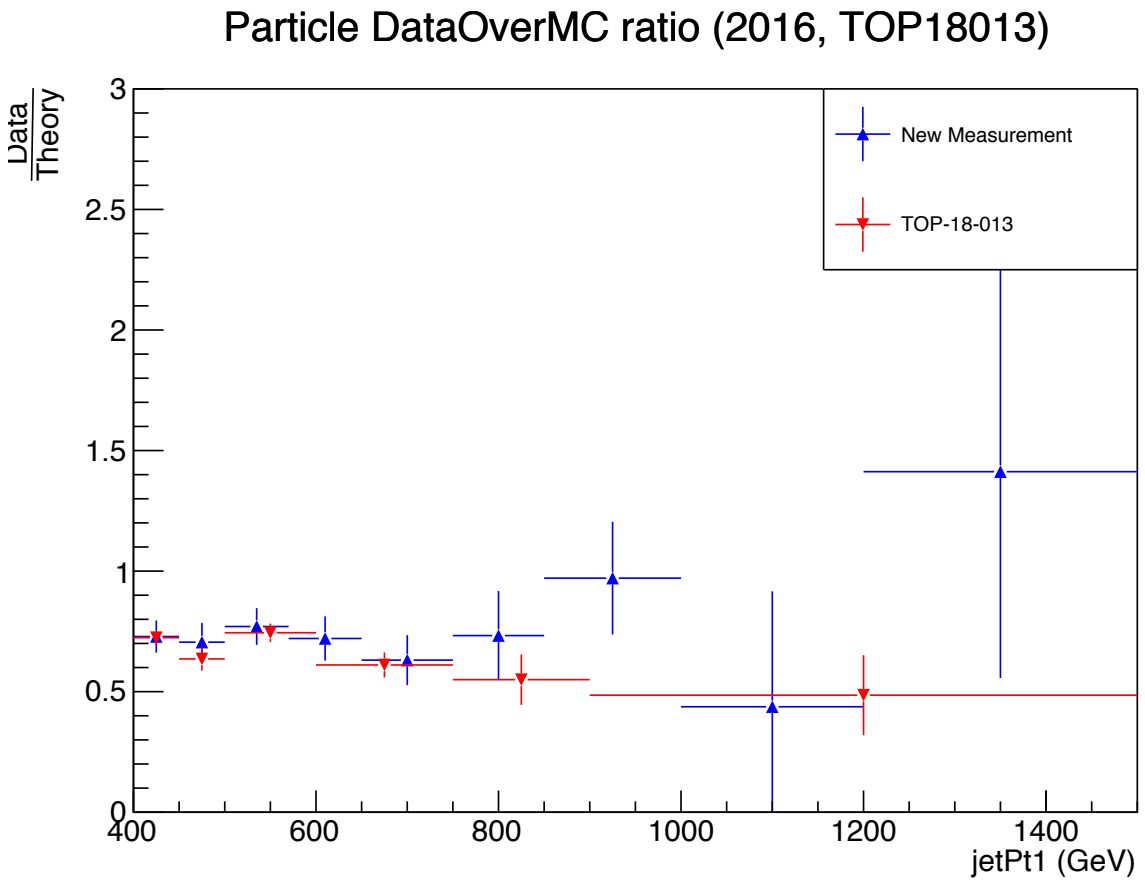




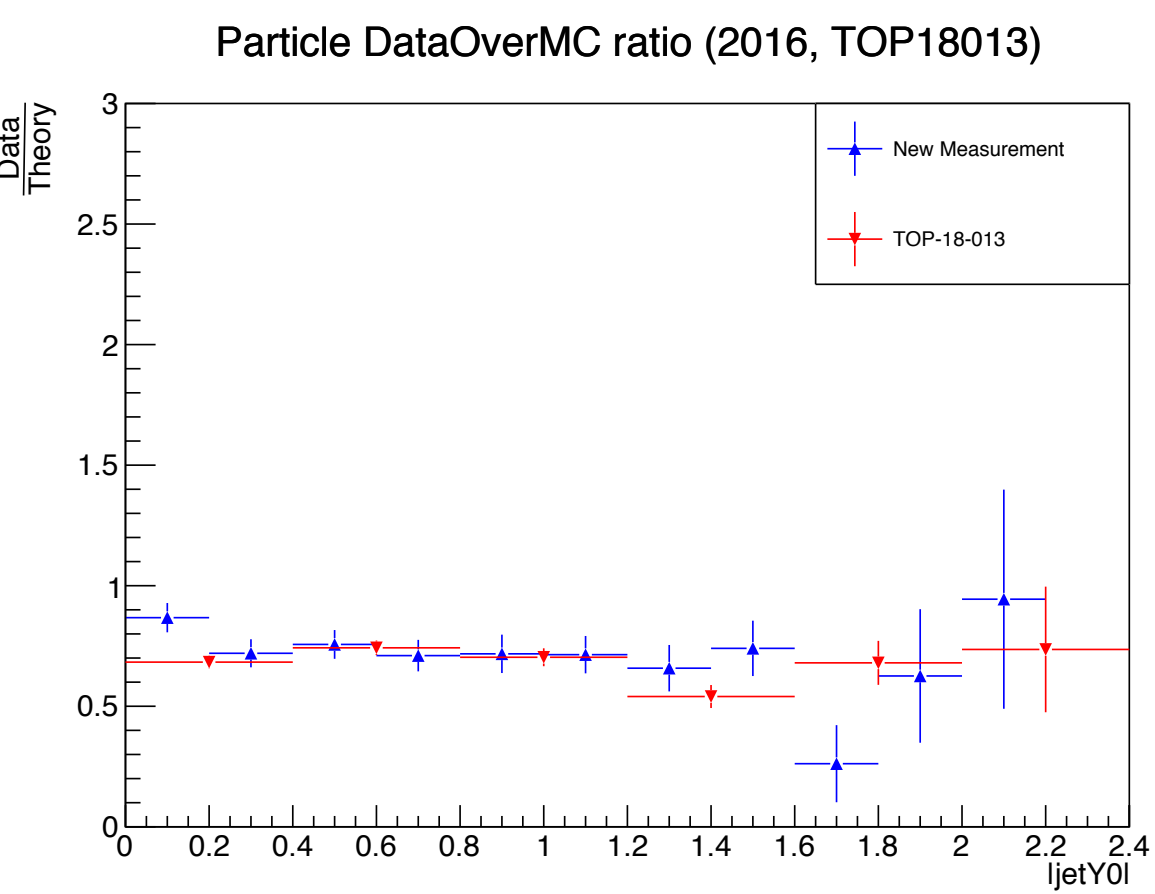
BACKUP

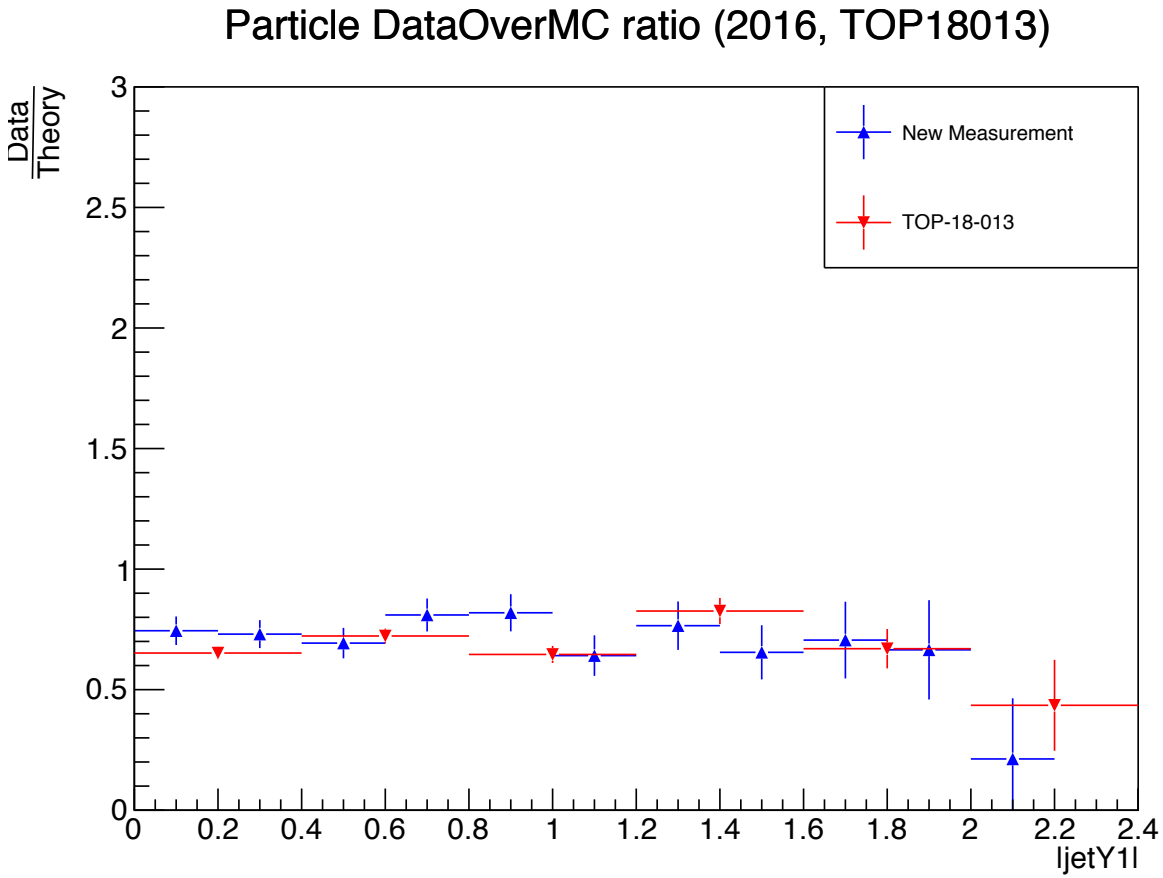
Differential Cross Section Measurements (Parton) 2016



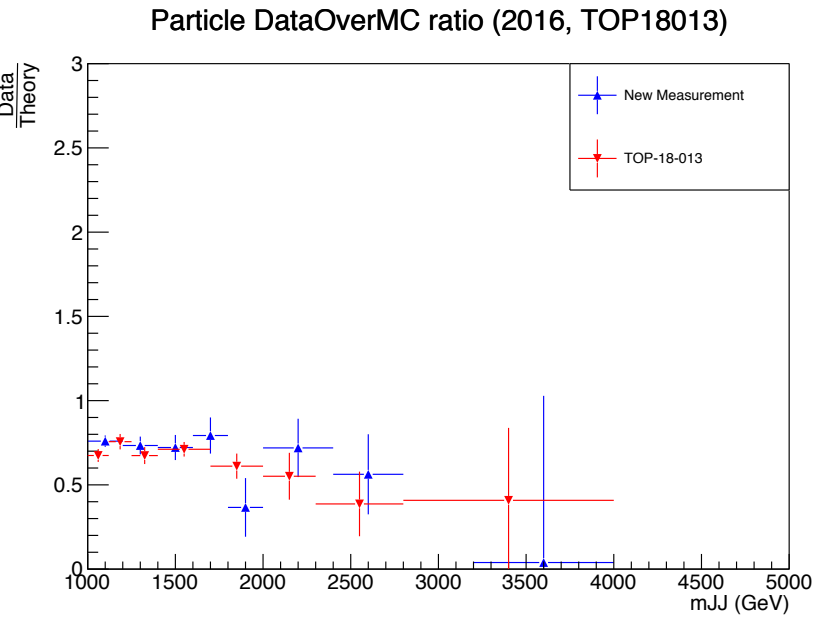


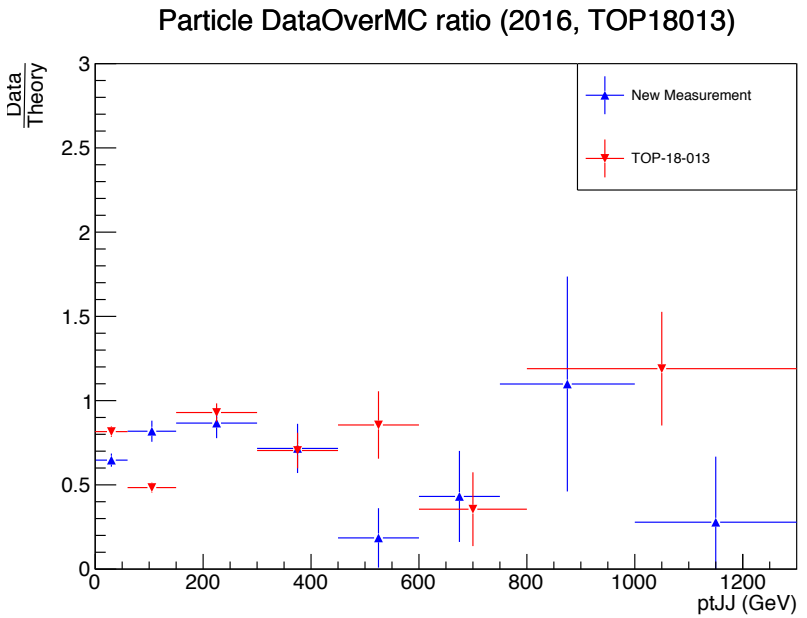
Differential Cross Section Measurements (Parton) 2016

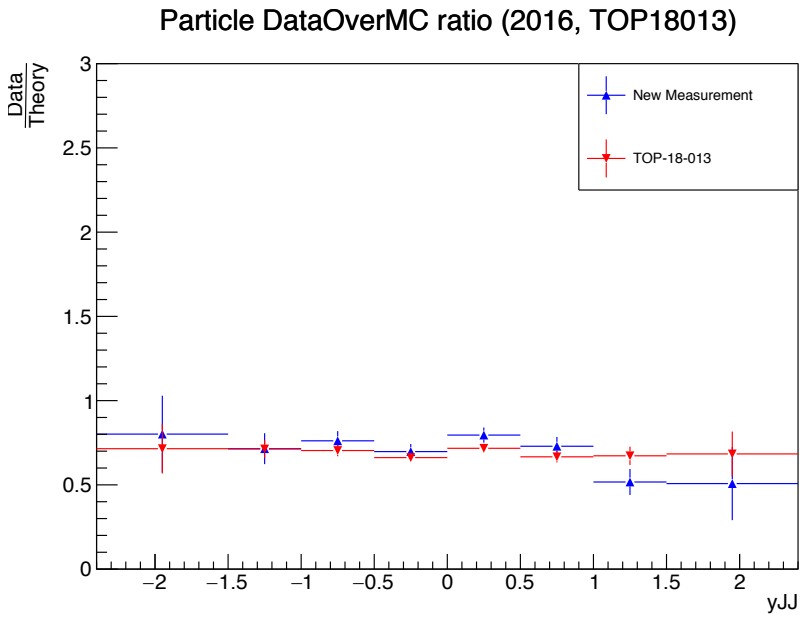




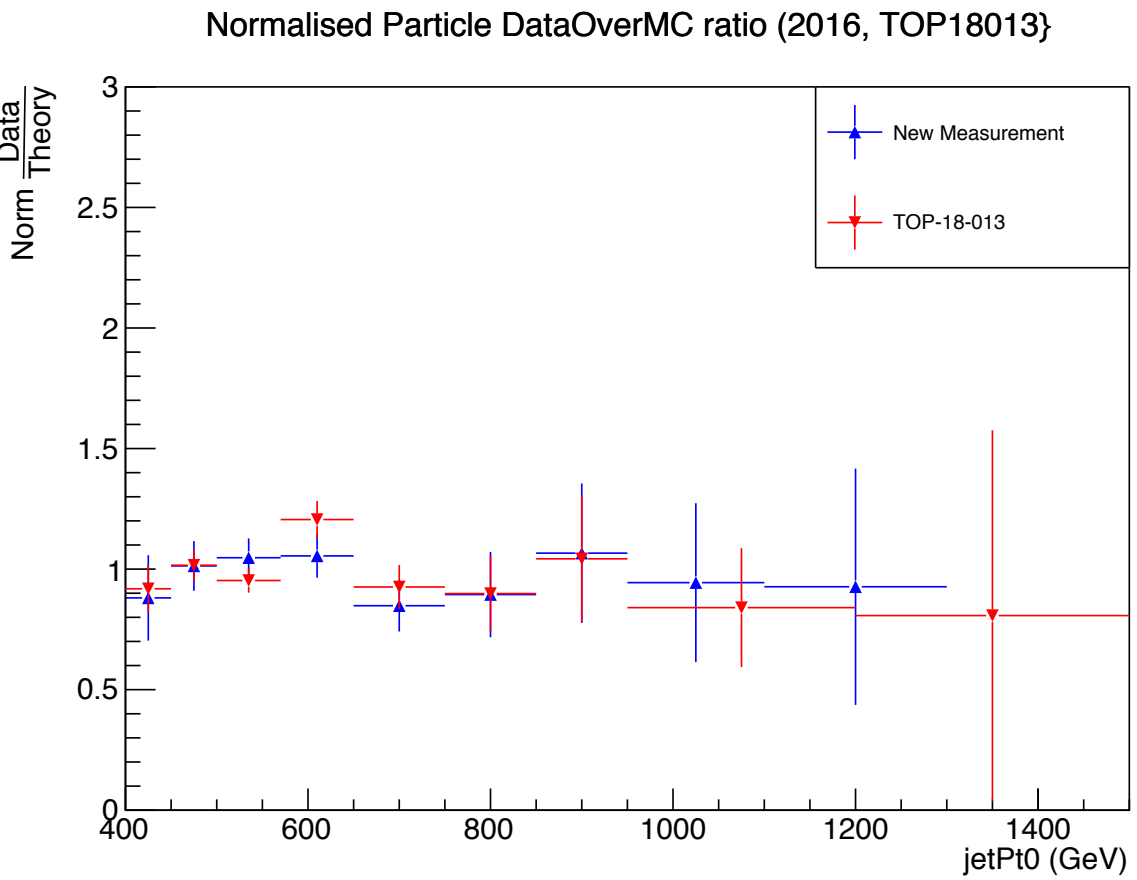
Differential Cross Section Measurements (Parton) 2016

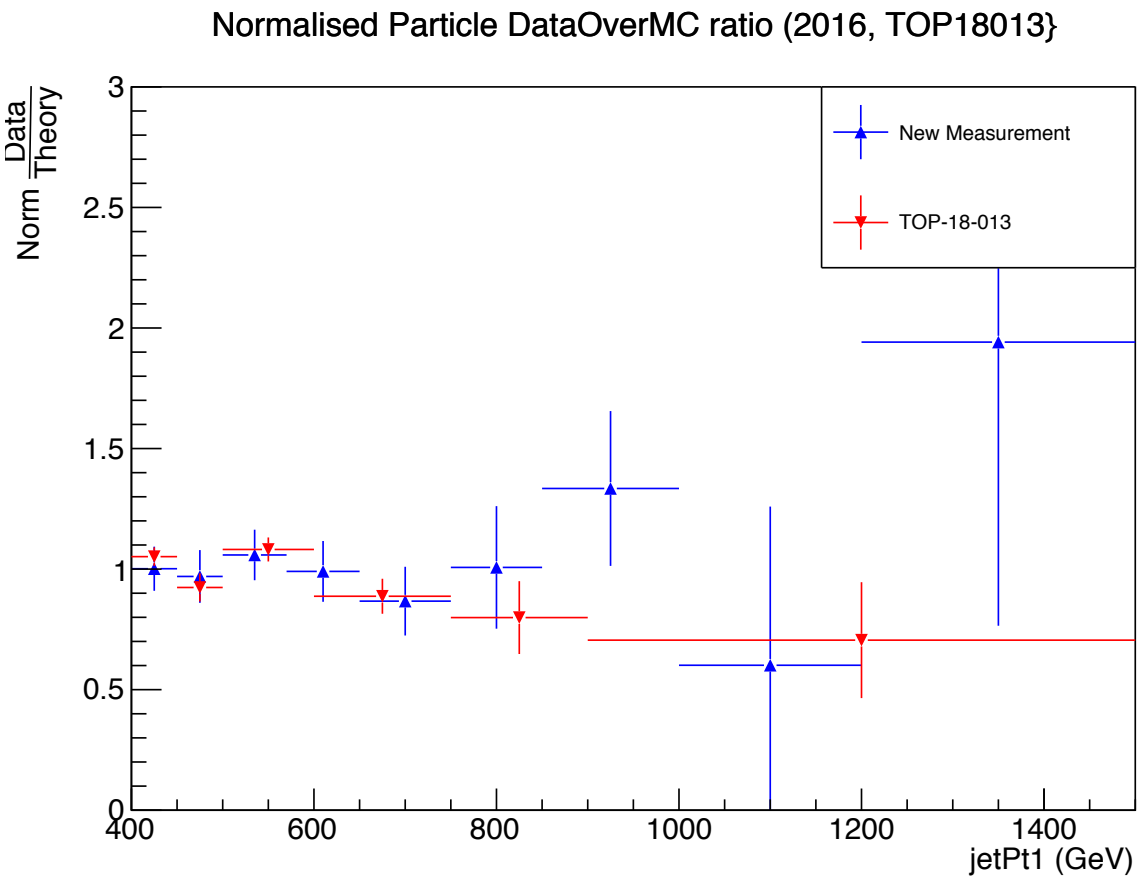




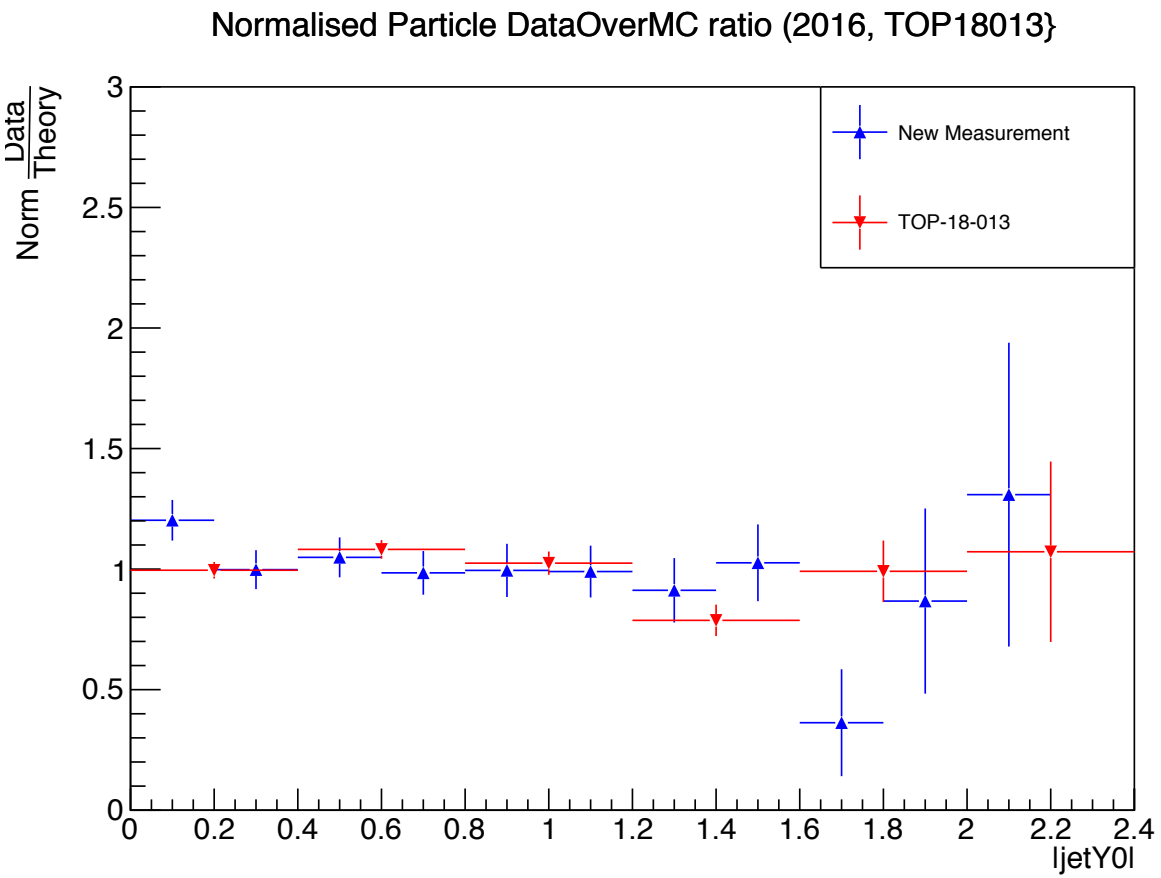


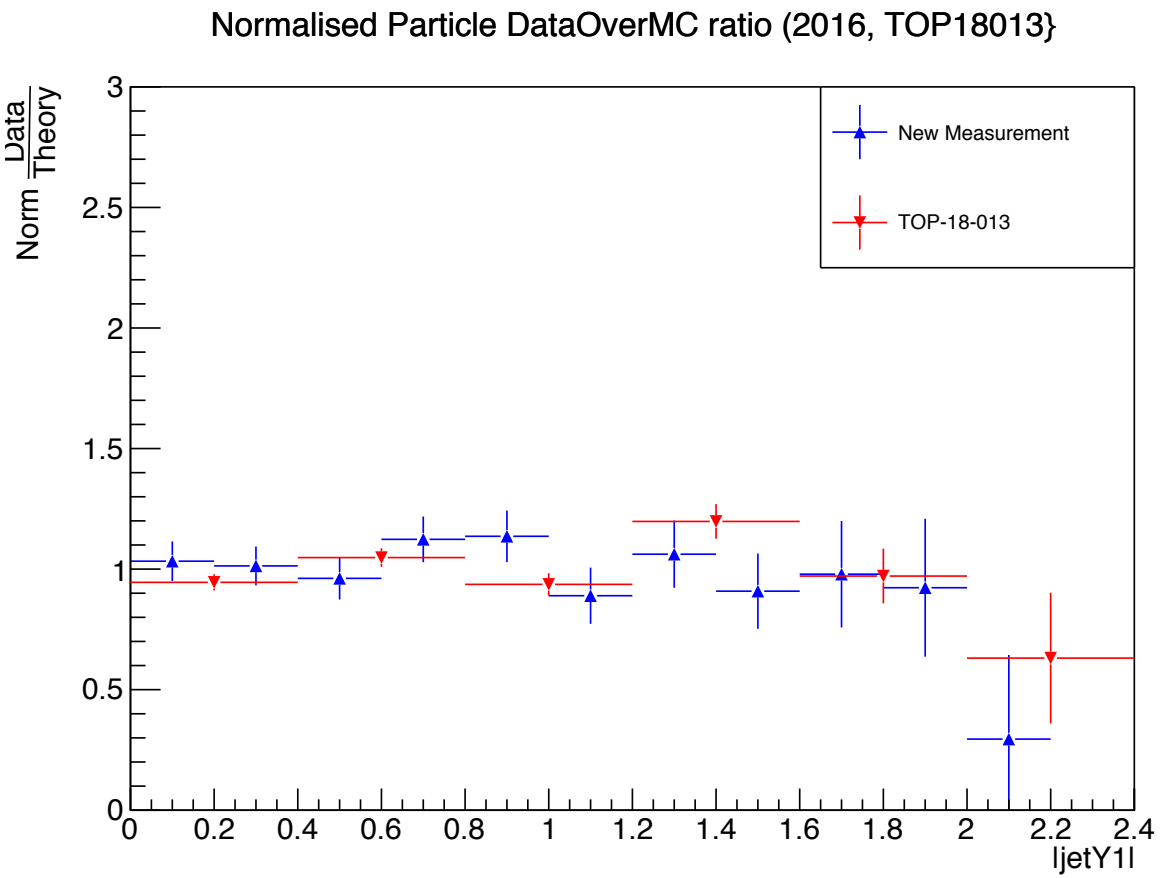
Differential Cross Section Measurements (Parton) 2016 Norm



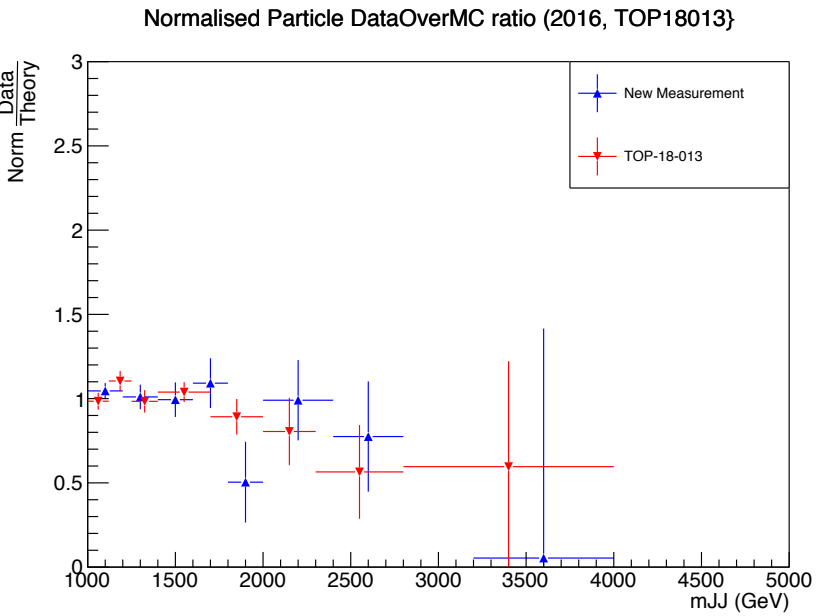


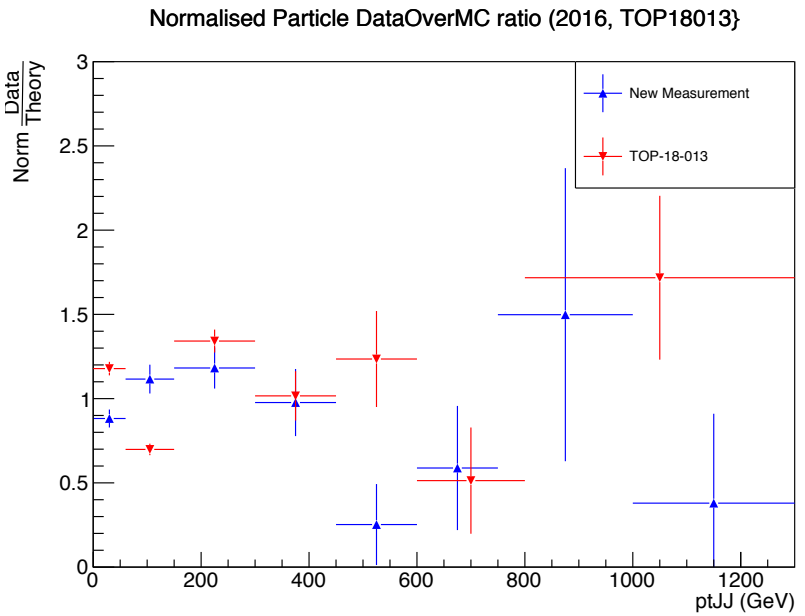
Differential Cross Section Measurements (Parton) 2016 Norm

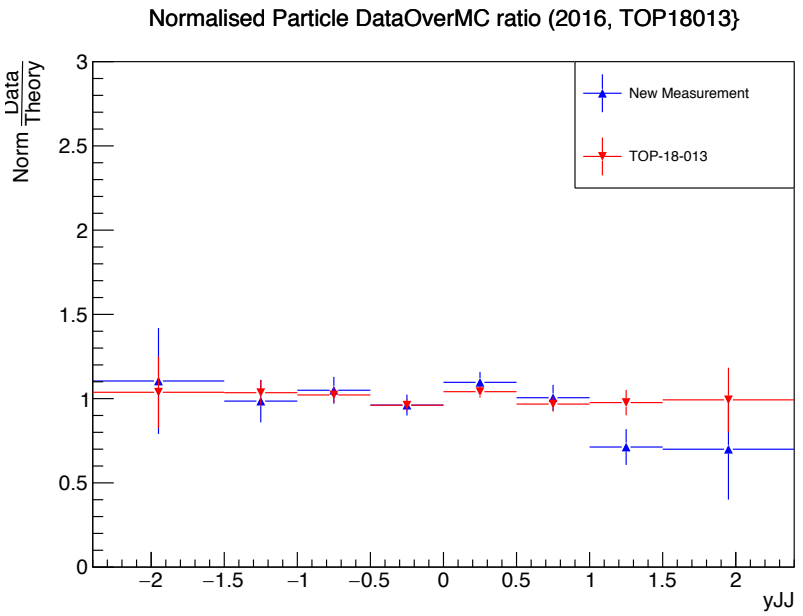




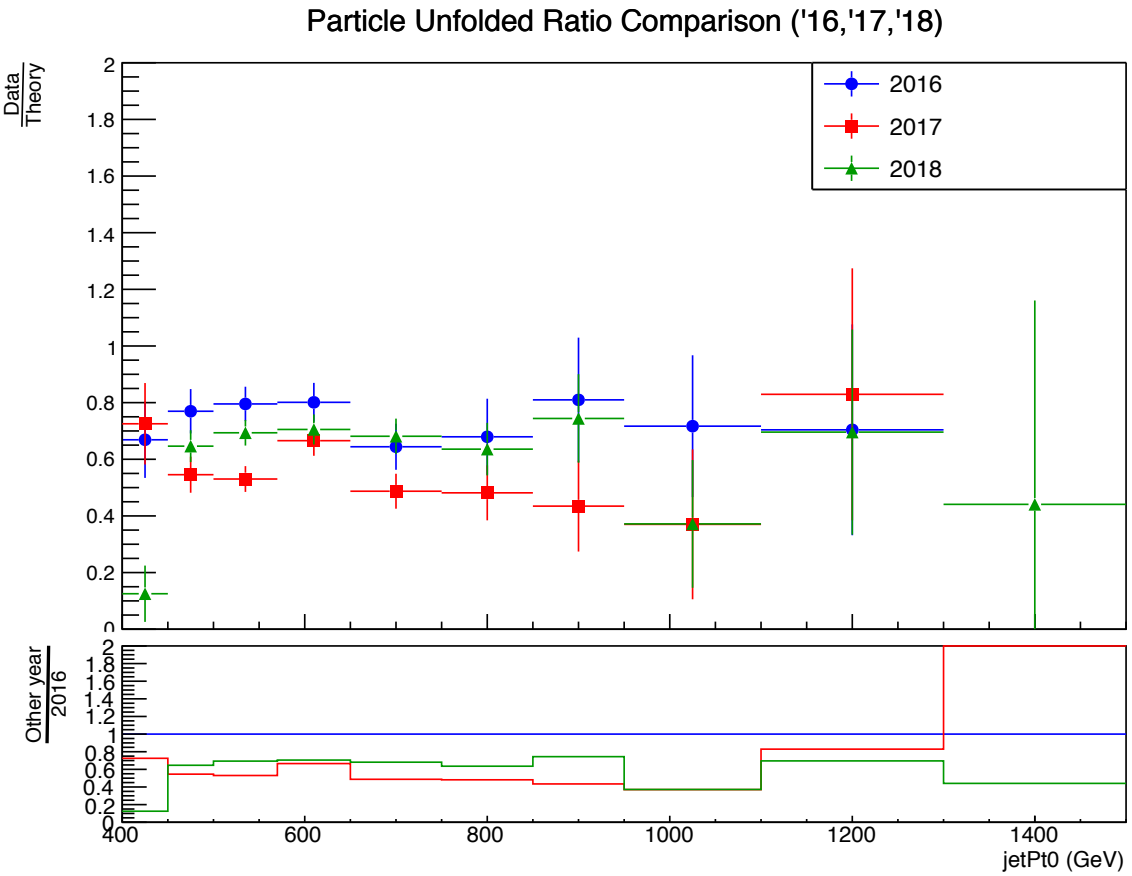
Differential Cross Section Measurements (Parton) 2016 Norm

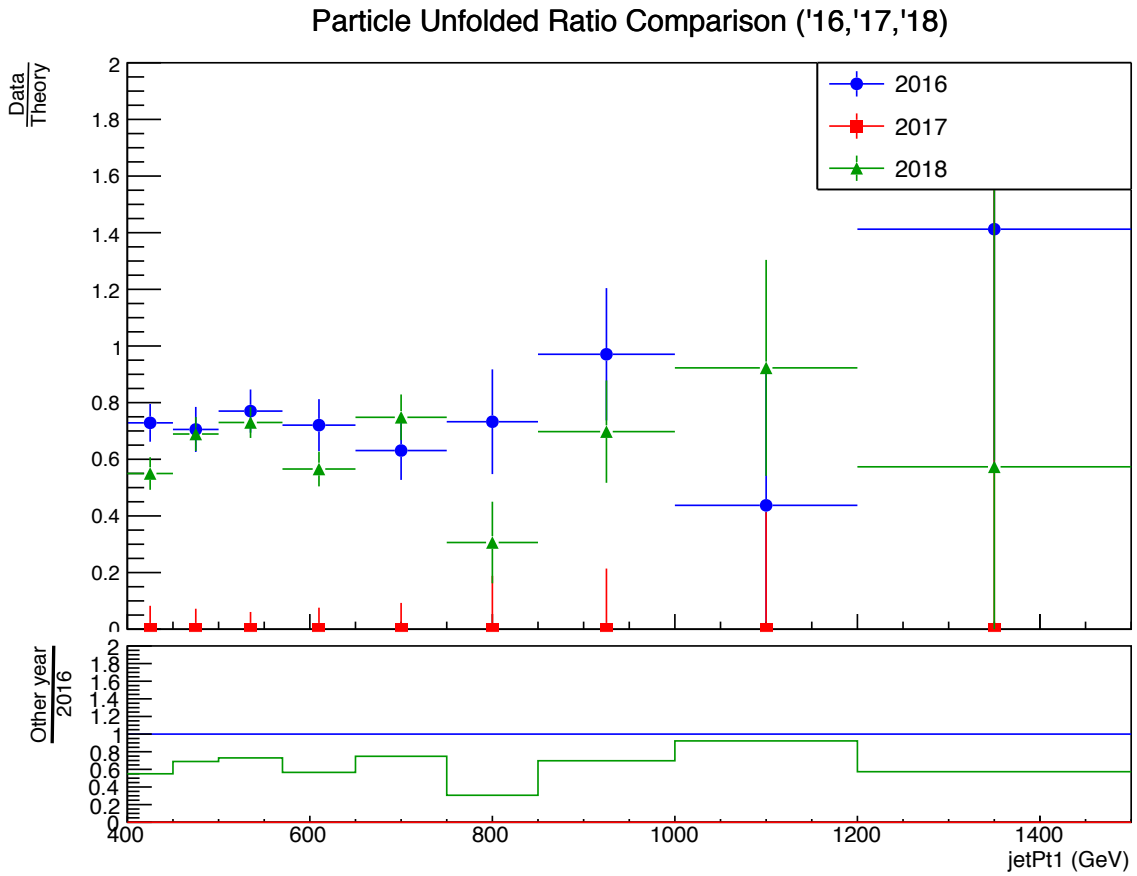




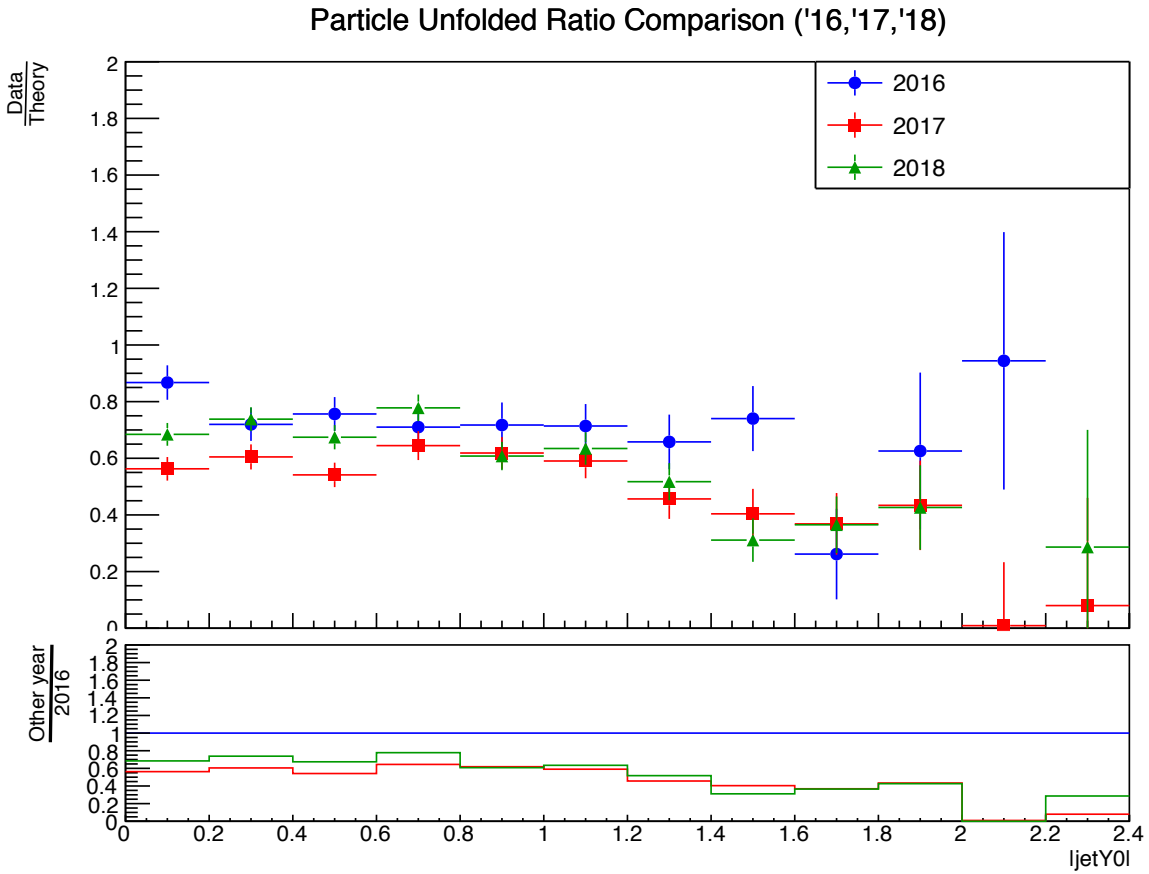


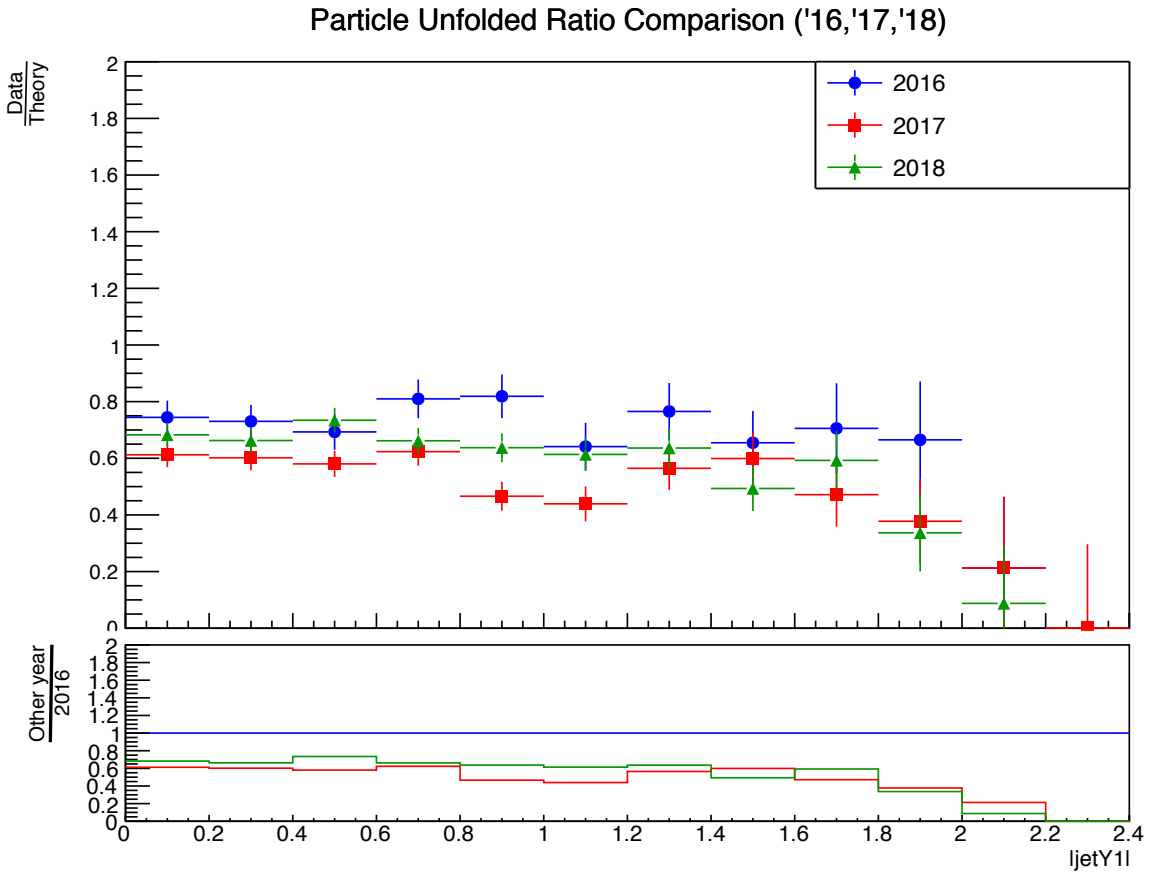
Differential Cross Section Measurements (Parton) 2016



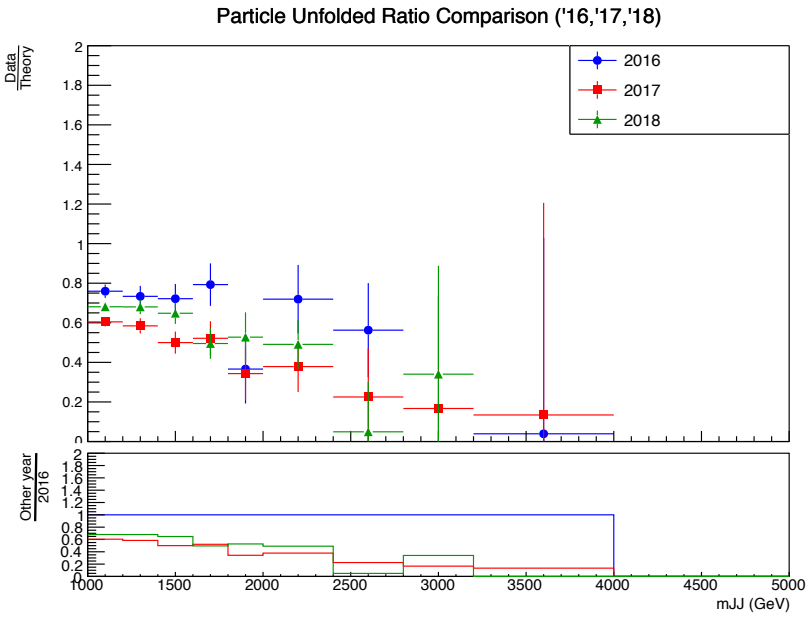


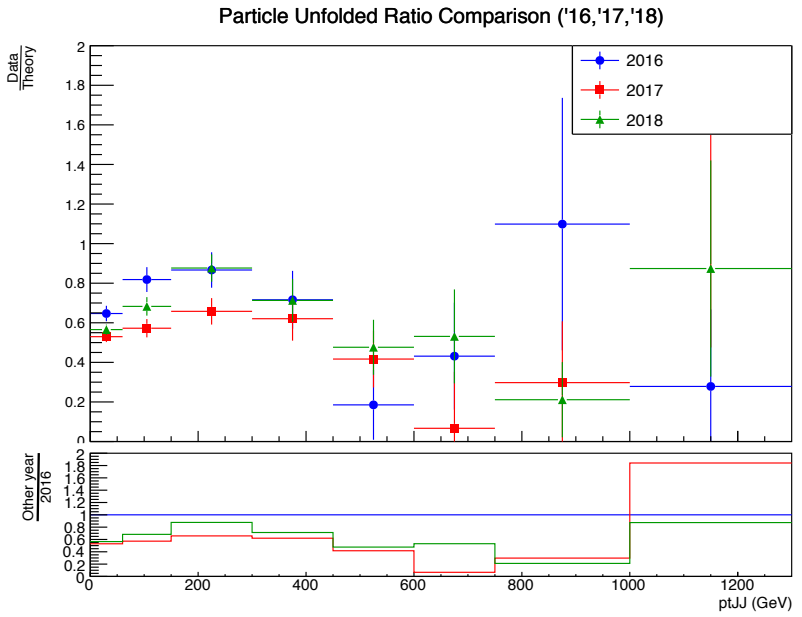
Differential Cross Section Measurements (Parton) 2016

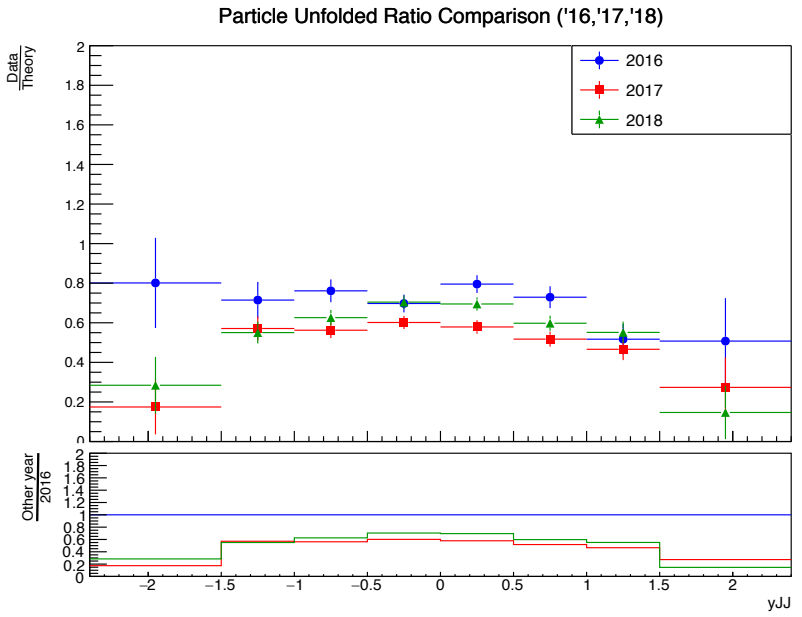




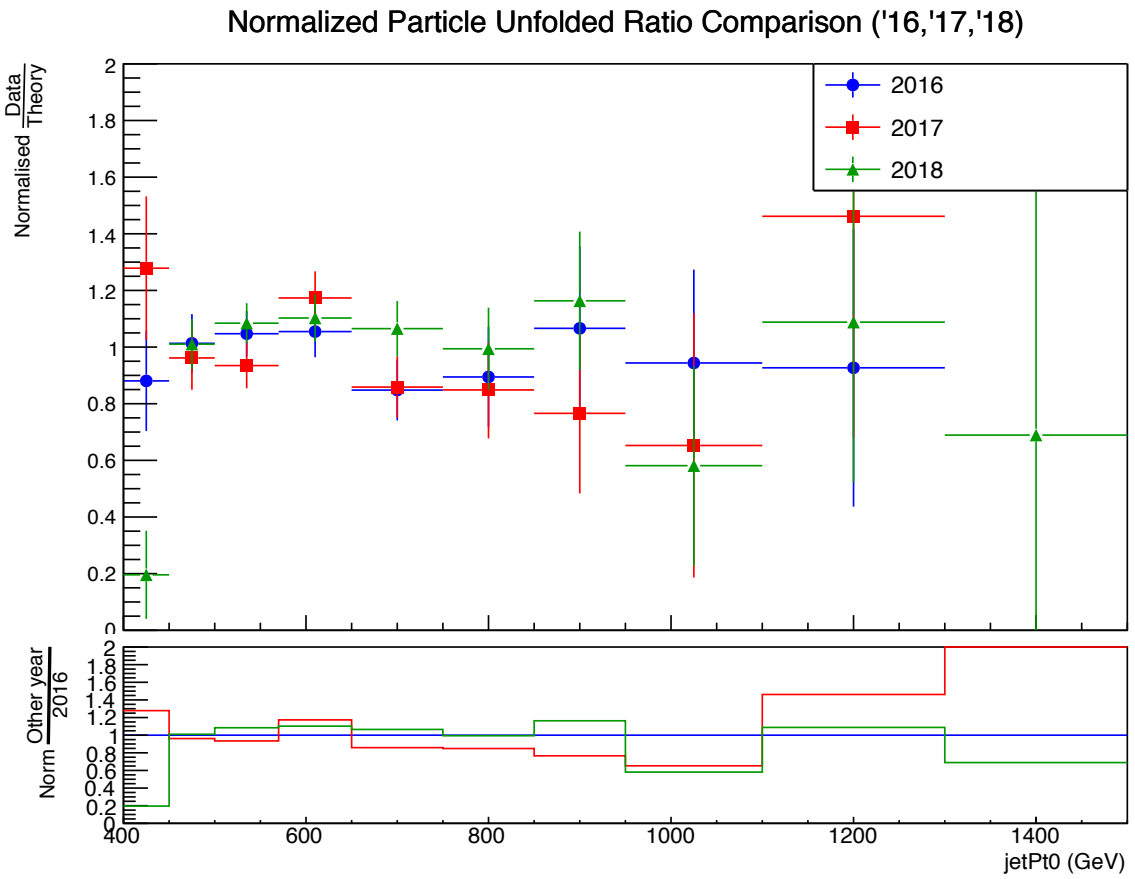
Differential Cross Section Measurements (Parton) 2016

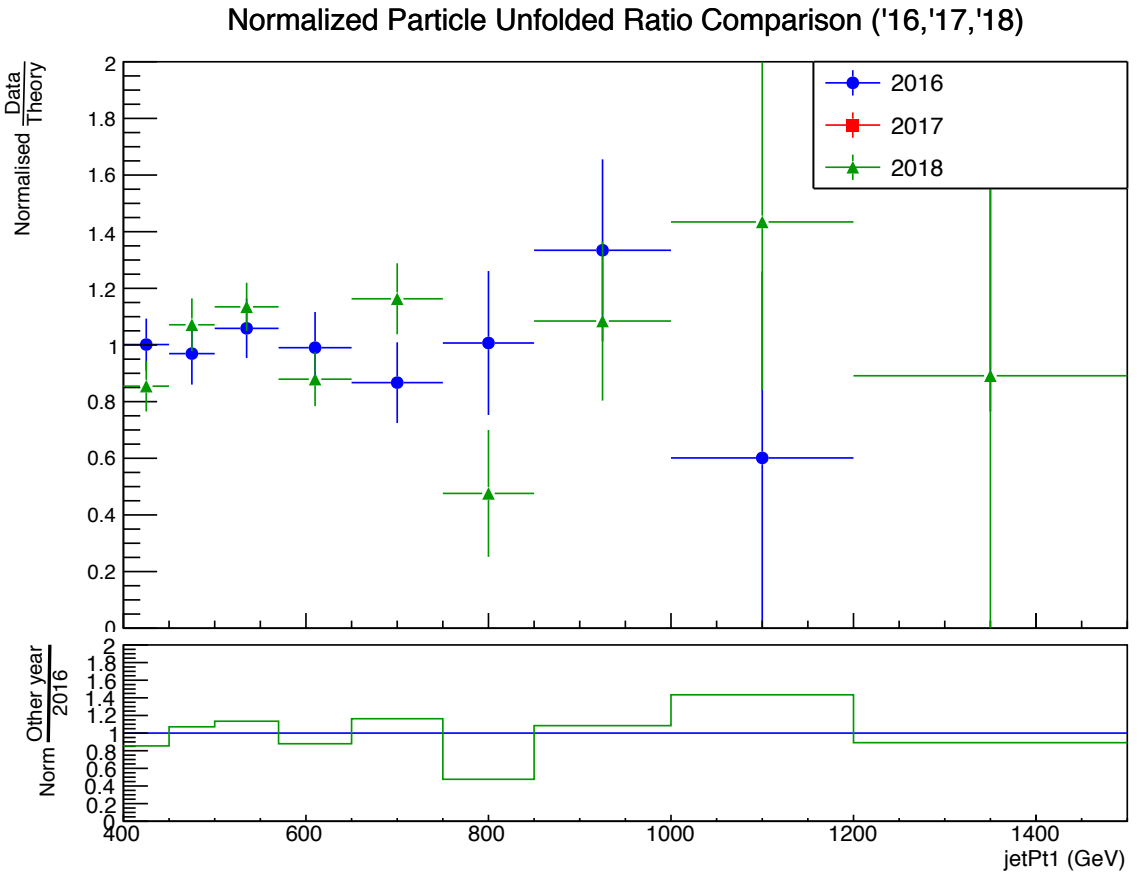




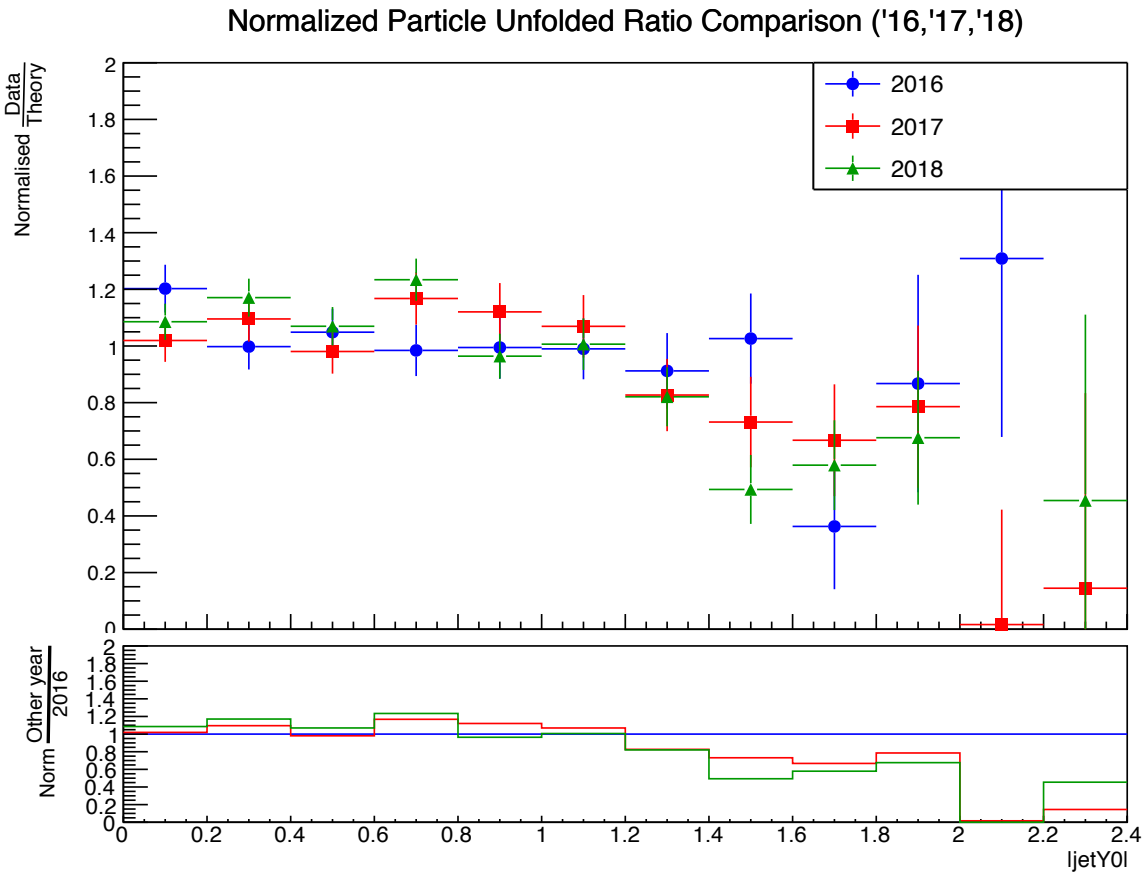


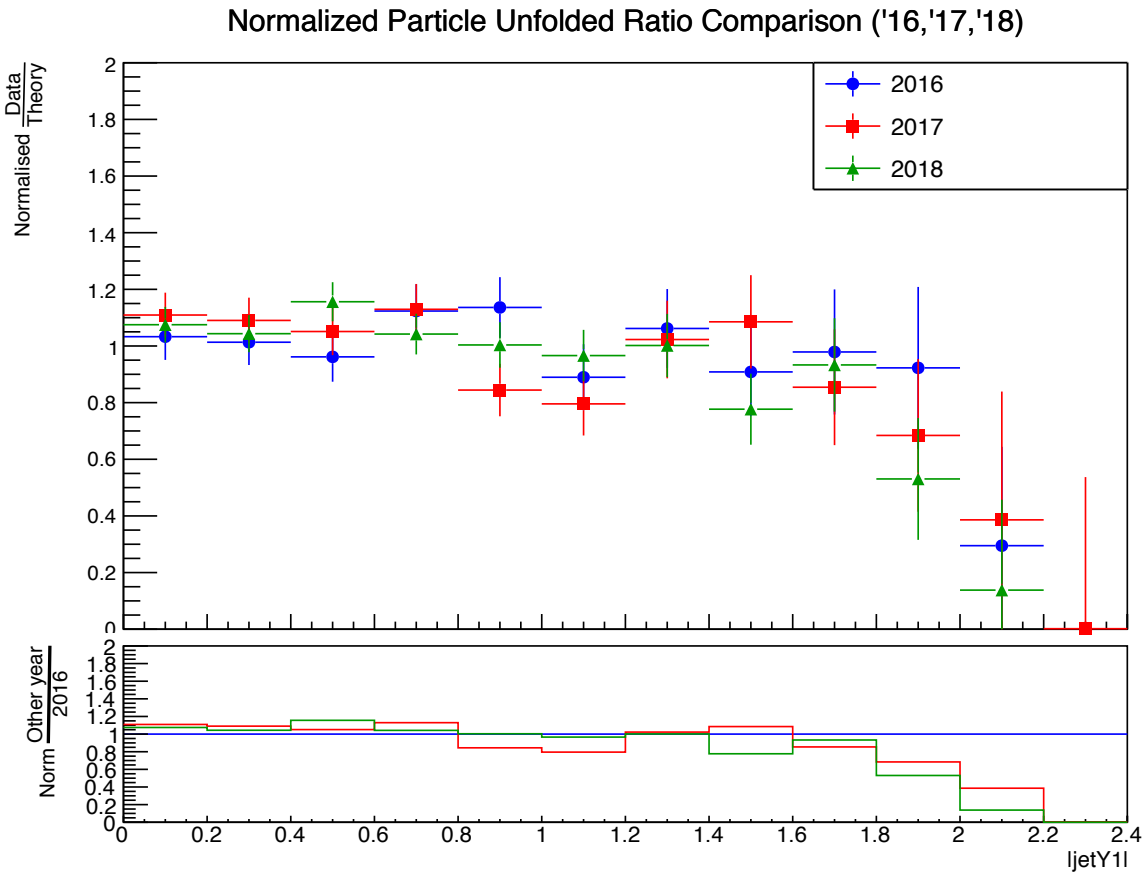
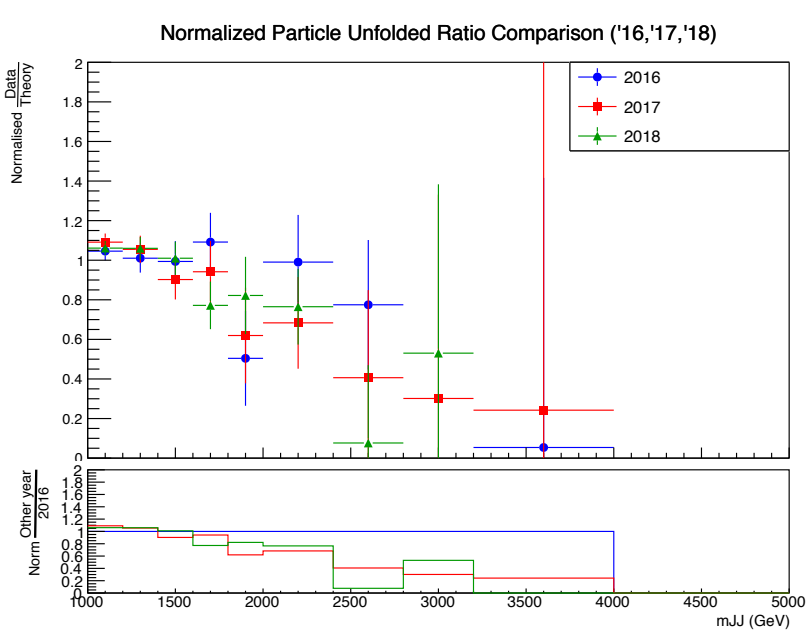
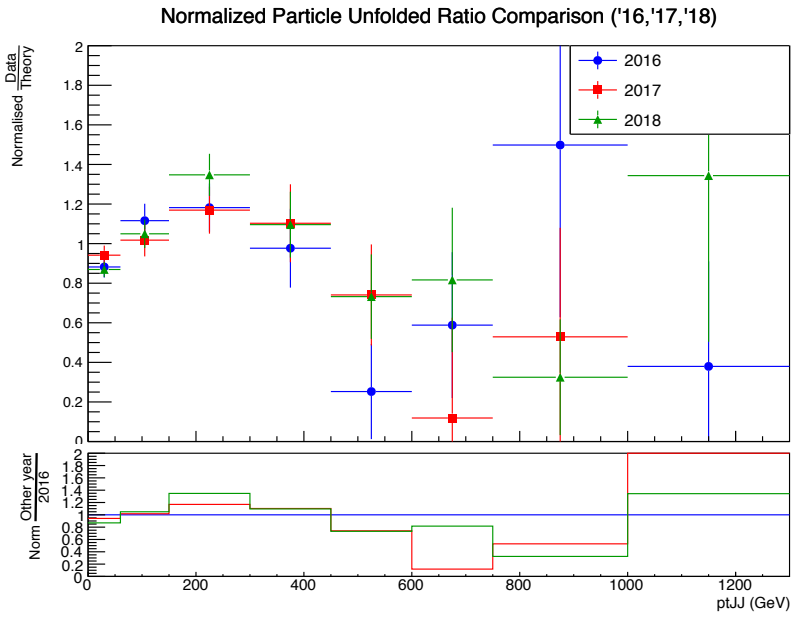
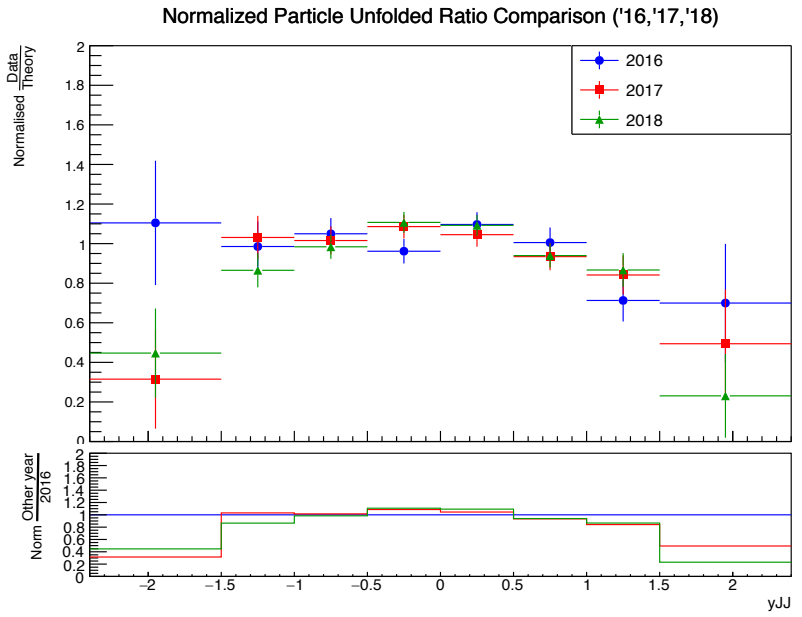
Differential Cross Section Measurements (Parton) 2016





Differential Cross Section Measurements (Parton) 2016





Differential Cross Section Measurements (Parton) 2016