

MEASUREMENT OF DY ABSOLUTE CROSS-SECTION MEASUREMENT FOR P+P AND P+D COLLISIONS WITH 120GeV PROTON BEAM AT FERMILAB

Weekly Updates



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Overview

- Event Selection: Chuck cuts.

- Files Used:

- Data:

`roadset57_70_R008_2111v42_tmp_noPhys.root`

- J/ψ MC Events:

`mc_jpsi_LH2_M027_S001_messy_occ_pTxFweight_v2.root`

- ψ' MC Events:

`mc_psiprime_LH2_M027_S001_messy_occ_pTxFweight_v2.root`

- Mixed Events:

`mixFPGA4_67_R008_preBin2.root`

- NNPDF4 File:

`NNPDF40_xFnew_p.root`

- CT18 File:

`CT18_xFnew_p.root`

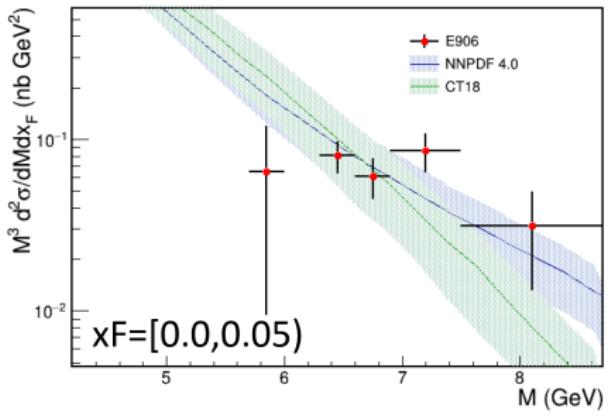
Analysis Steps

- Background Subtraction from Data by using MC templates.
- Applying acceptance and kTracker efficiency corrections to Data.Scale for live POT and hodo efficiencies.
- Cross-Section Measurement:

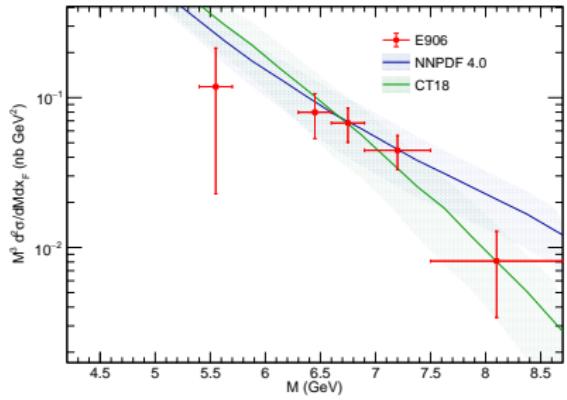
$$M^3 \frac{d\sigma^2}{dMdx_F} = M^3 \frac{N_{events}}{\Delta M \Delta x_F \mathcal{L}}$$

- Comparison will be done with the plots mentioned in docdb: 10167-V1

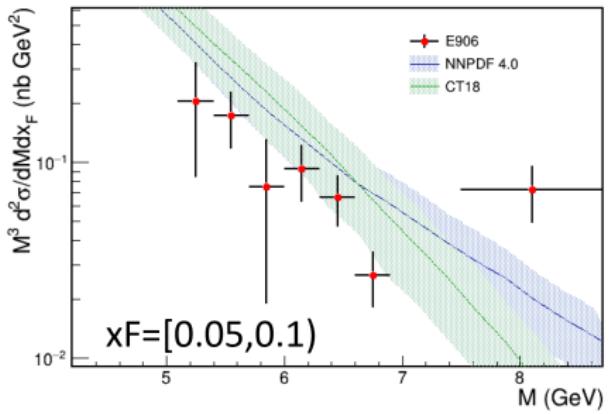
Double Differential Cross-Section: $0.0 \leq x_F < 0.05$



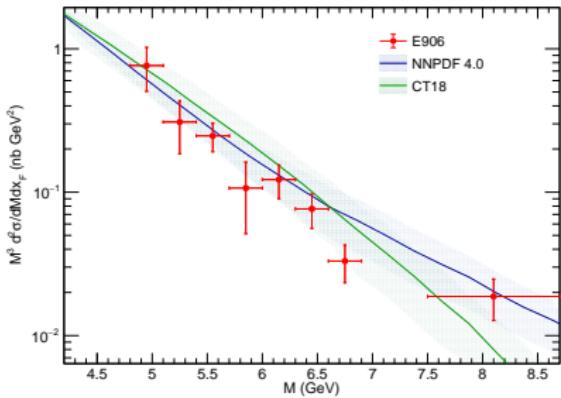
Differential Cross Section, x_F bin 0



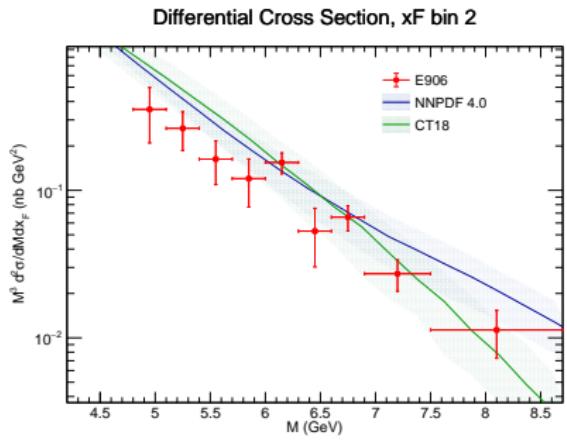
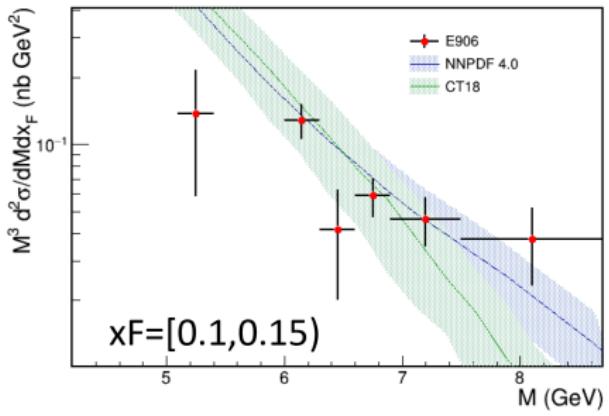
Double Differential Cross-Section: $0.05 \leq x_F < 0.1$



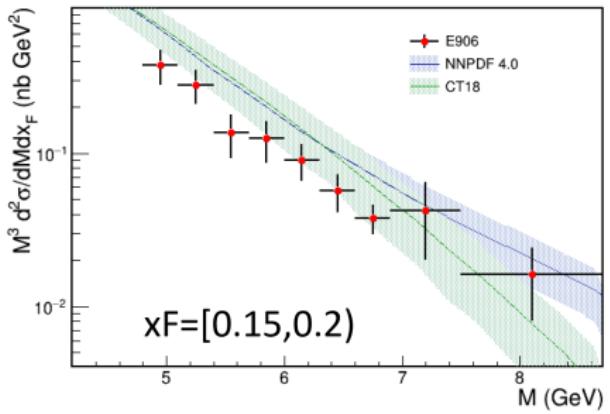
Differential Cross Section, x_F bin 1



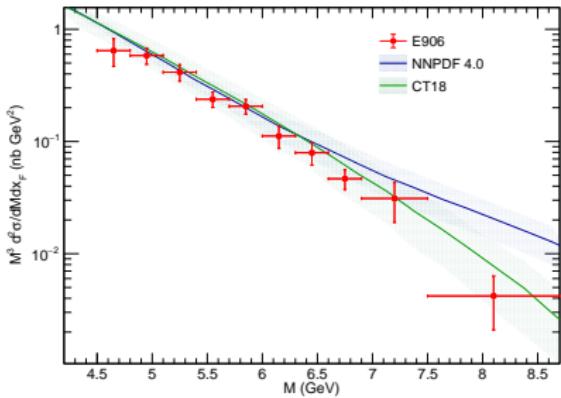
Double Differential Cross-Section: $0.1 \leq x_F < 0.15$



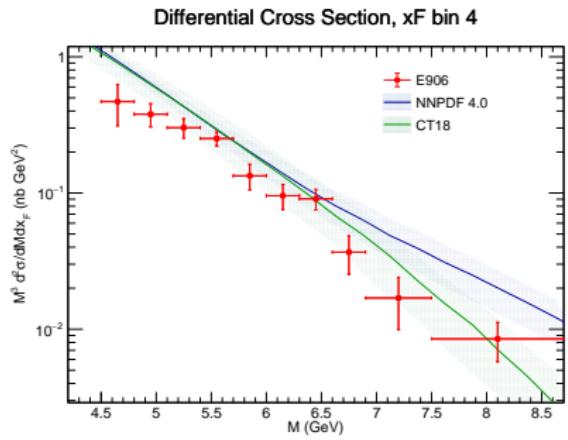
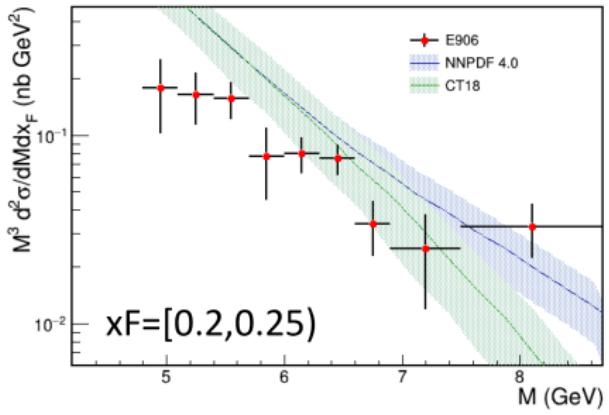
Double Differential Cross-Section: $0.15 \leq x_F < 0.2$



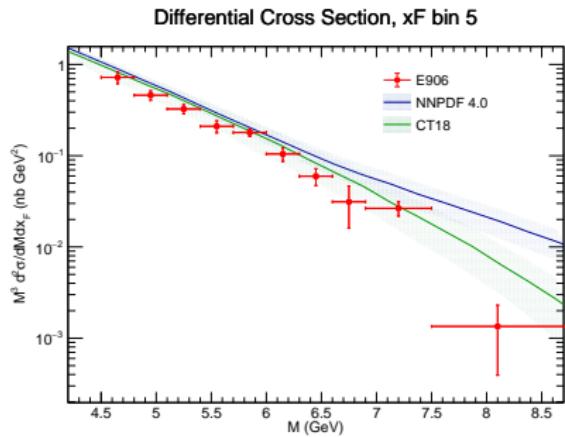
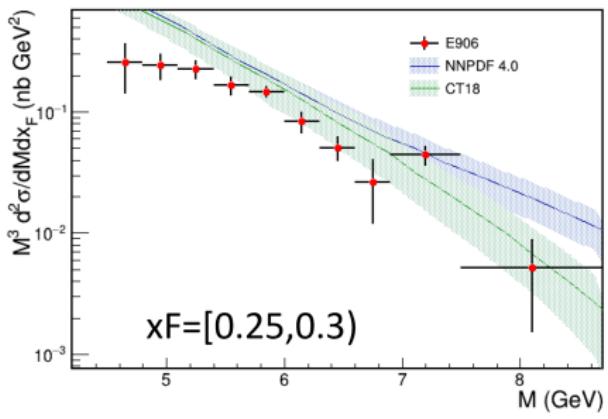
Differential Cross Section, x_F bin 3



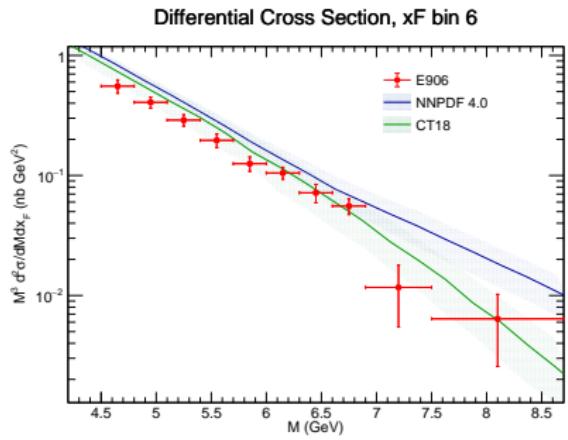
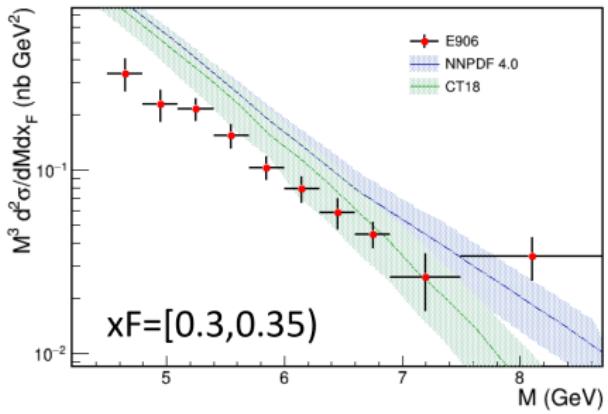
Double Differential Cross-Section: $0.2 \leq x_F < 0.25$



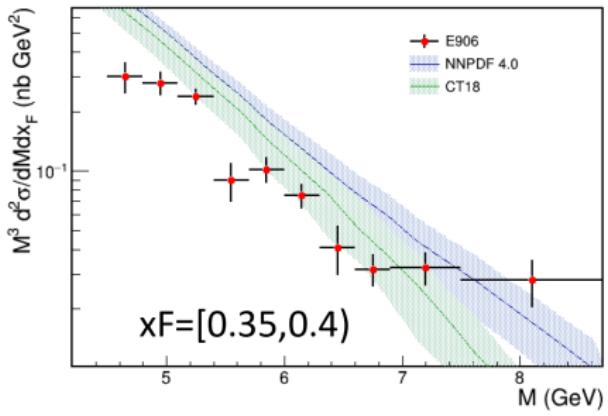
Double Differential Cross-Section: $0.25 \leq x_F < 0.3$



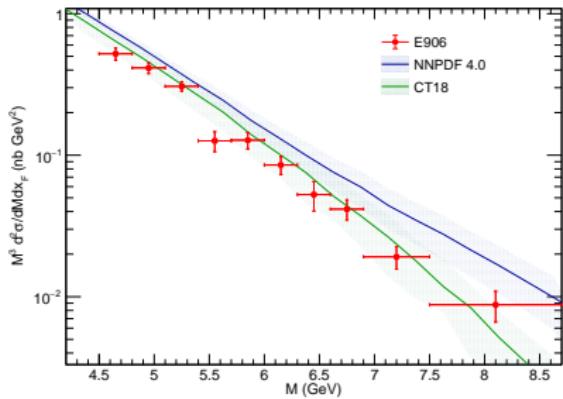
Double Differential Cross-Section: $0.3 \leq x_F < 0.35$



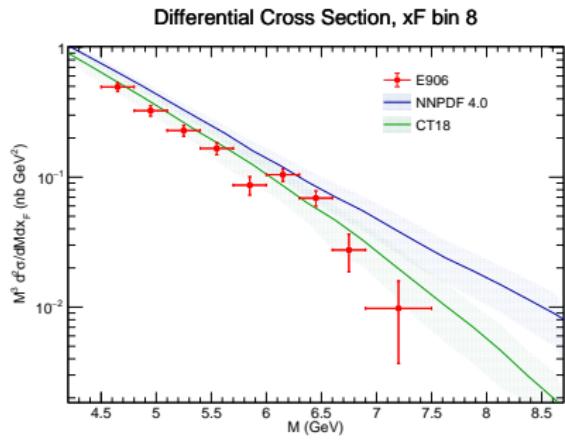
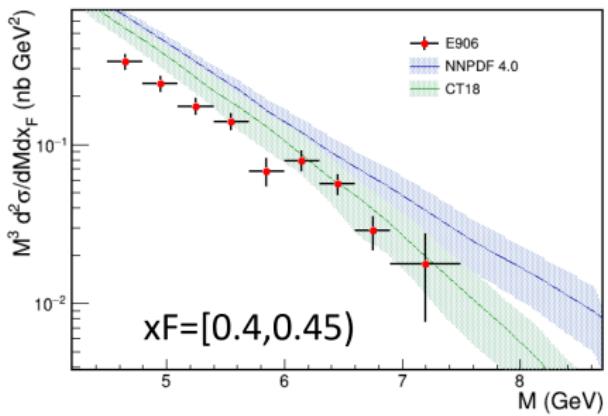
Double Differential Cross-Section: $0.35 \leq x_F < 0.4$



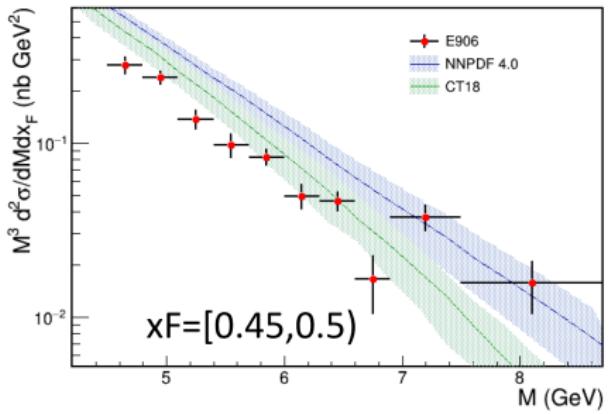
Differential Cross Section, x_F bin 7



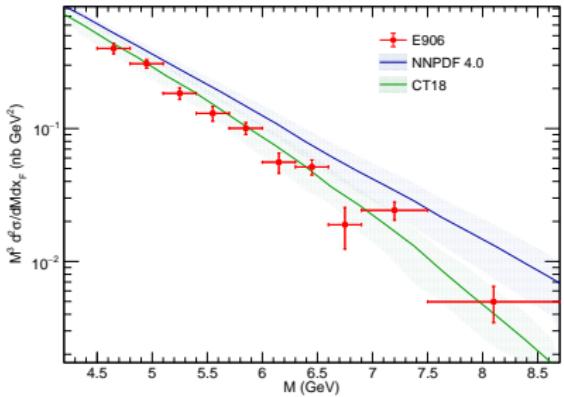
Double Differential Cross-Section: $0.4 \leq x_F < 0.45$



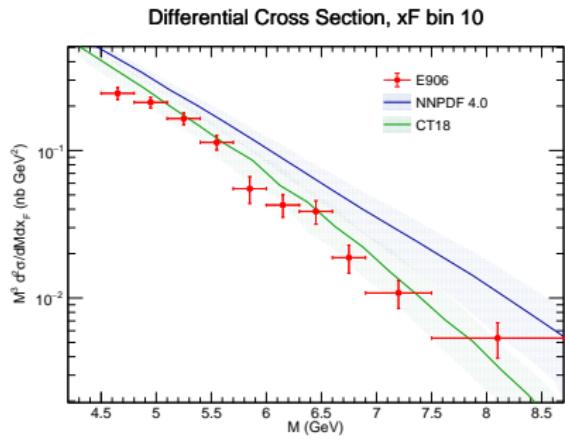
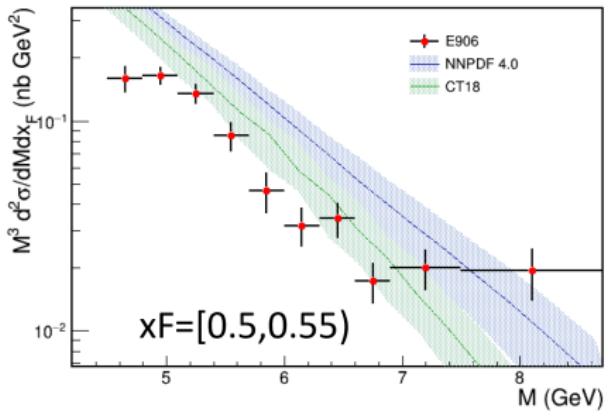
Double Differential Cross-Section: $0.45 \leq x_F < 0.5$



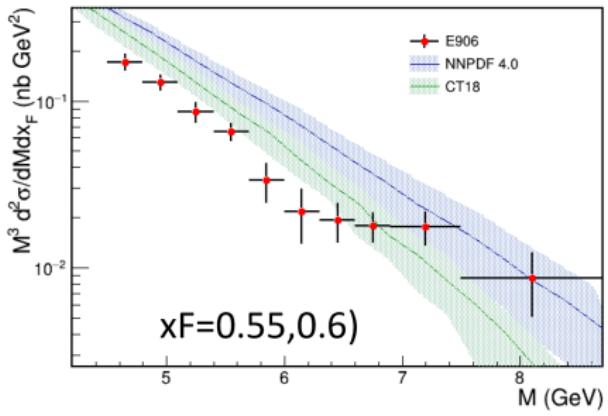
Differential Cross Section, x_F bin 9



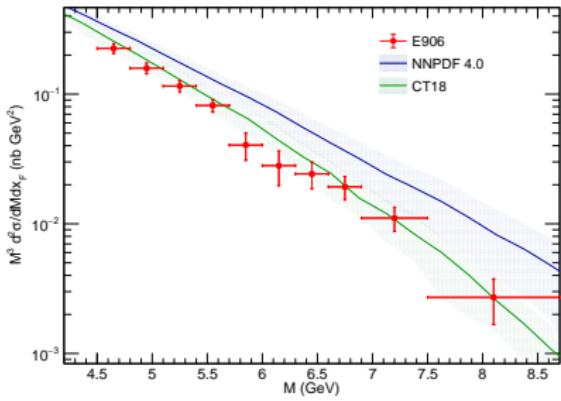
Double Differential Cross-Section: $0.5 \leq x_F < 0.55$



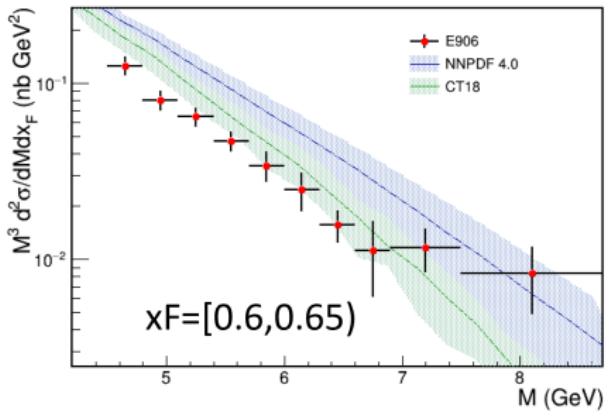
Double Differential Cross-Section: $0.55 \leq x_F < 0.6$



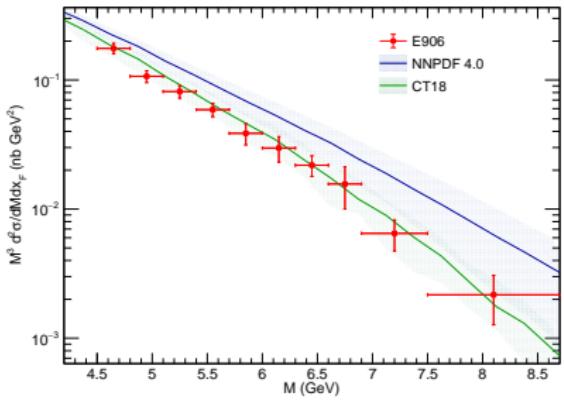
Differential Cross Section, x_F bin 11



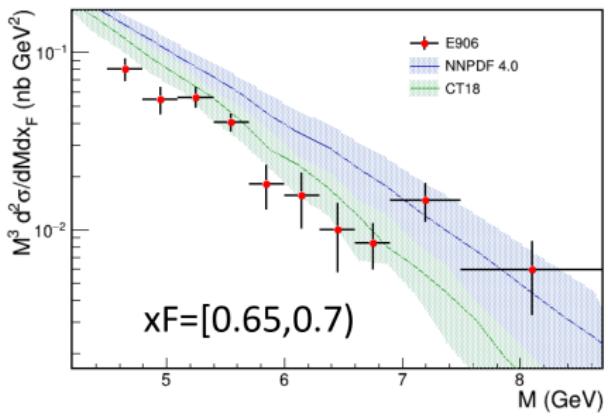
Double Differential Cross-Section: $0.6 \leq x_F < 0.65$



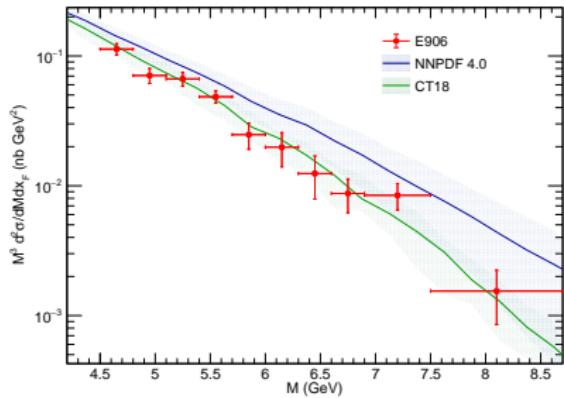
Differential Cross Section, x_F bin 12



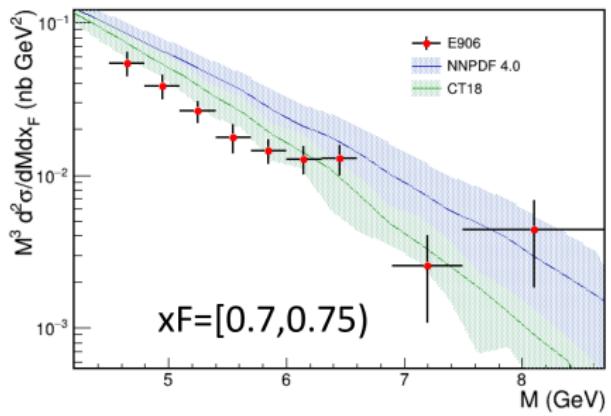
Double Differential Cross-Section: $0.65 \leq x_F < 0.7$



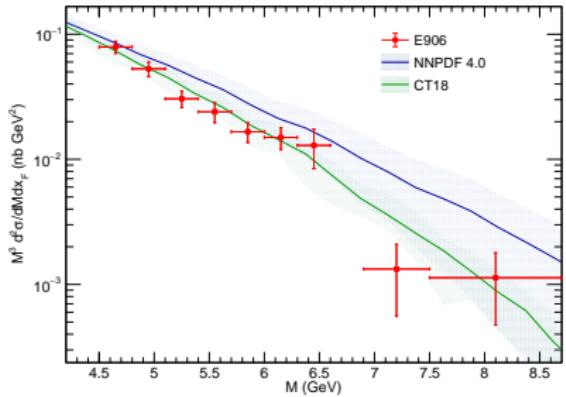
Differential Cross Section, x_F bin 13



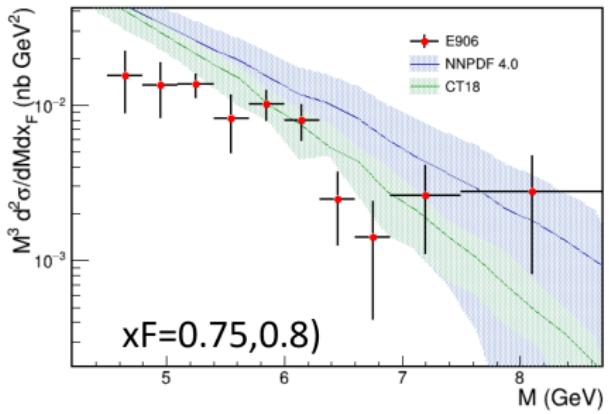
Double Differential Cross-Section: $0.7 \leq x_F < 0.75$



Differential Cross Section, x_F bin 14



Double Differential Cross-Section: $0.75 \leq x_F < 0.8$



Differential Cross Section, x_F bin 15

