

Identified hadron asymmetries

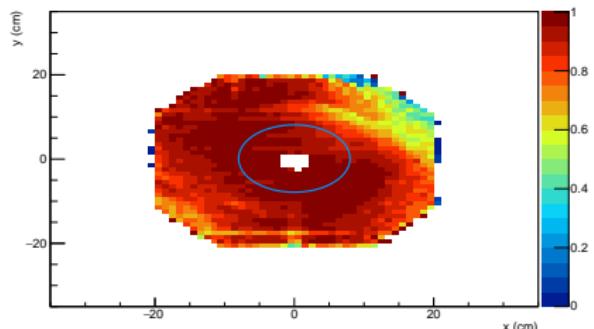
Malte Wilfert

Institut für Kernphysik - Johannes Gutenberg-Universität Mainz

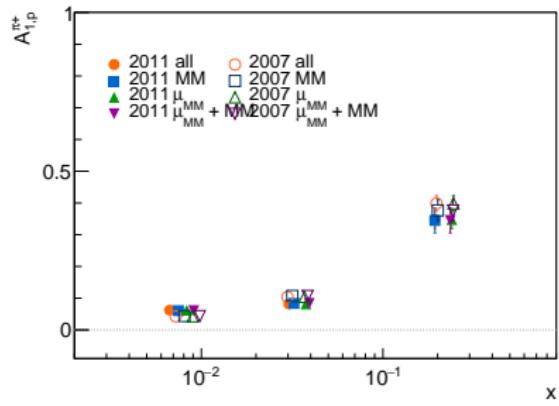
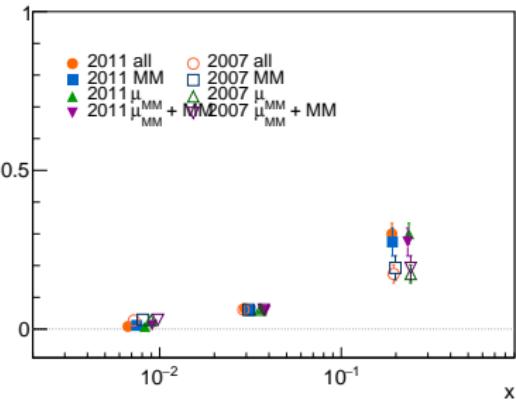
8th June 2016

MM efficiency

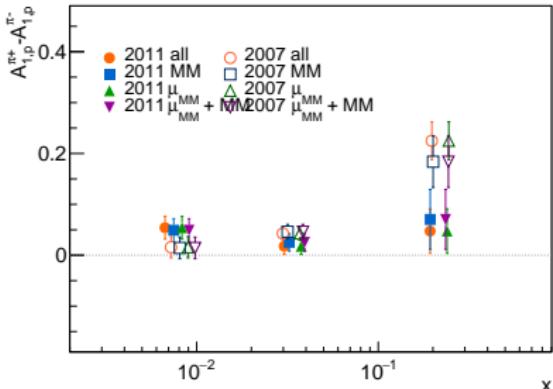
Positive central cell polarisation



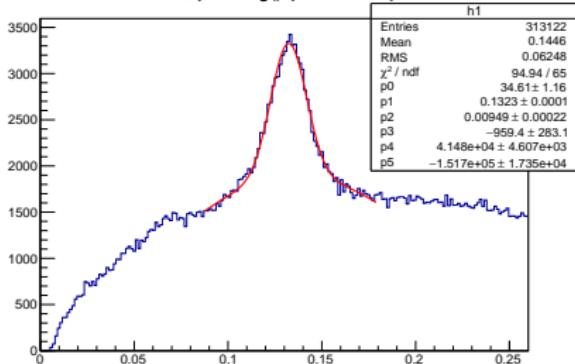
$A_{1,p}^{\text{rc}}$



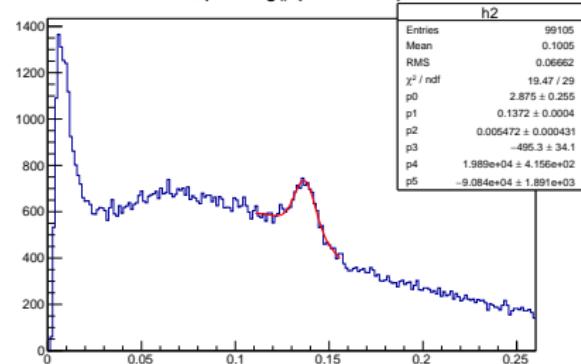
$A_{1,p}^{\text{rt+}} - A_{1,p}^{\text{rt-}}$



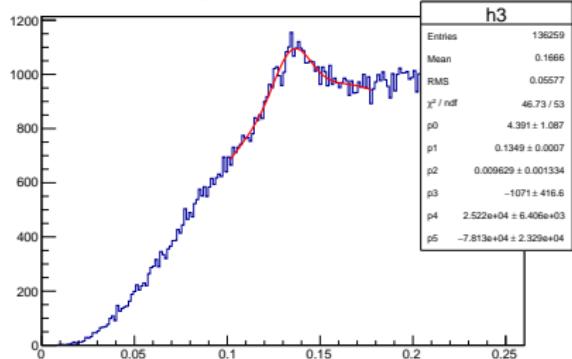
lv_pi0.Mag() {ecal == 11}



lv_pi0.Mag() {ecal == 22}

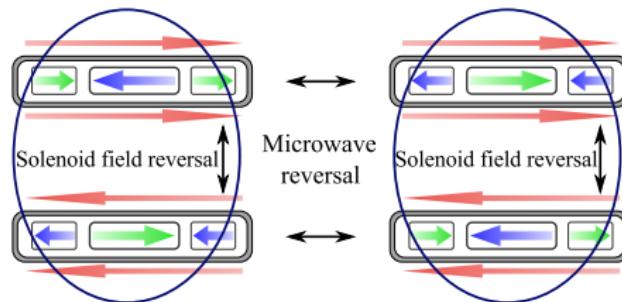


lv_pi0.Mag() {ecal == 12 || ecal == 21}

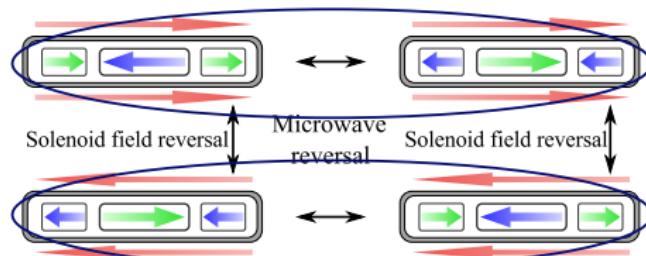


Method

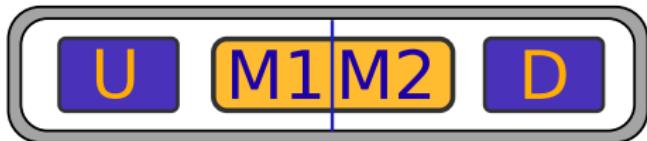
- Consecutive grouping (normal procedure)



- Dubna method

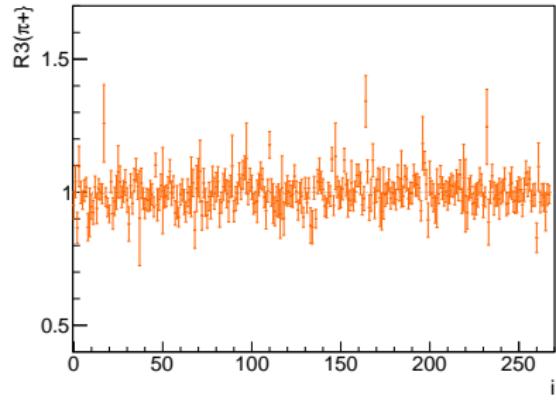
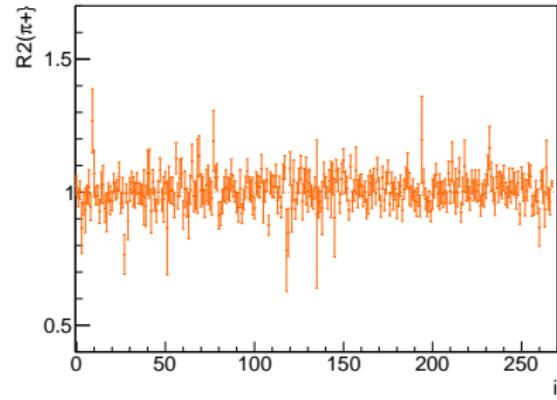
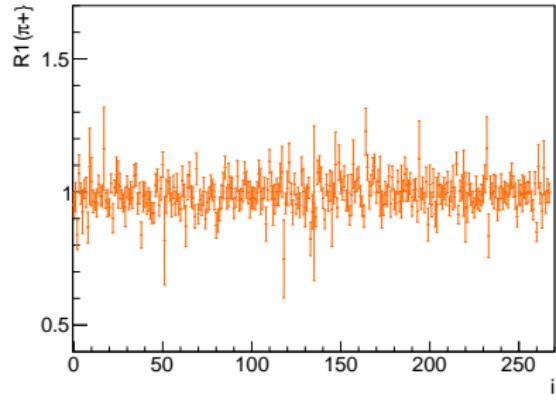
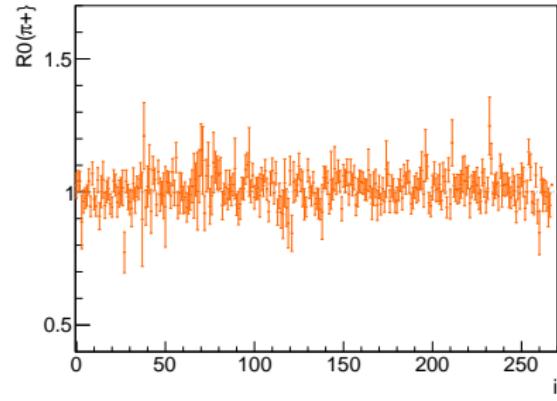


Method

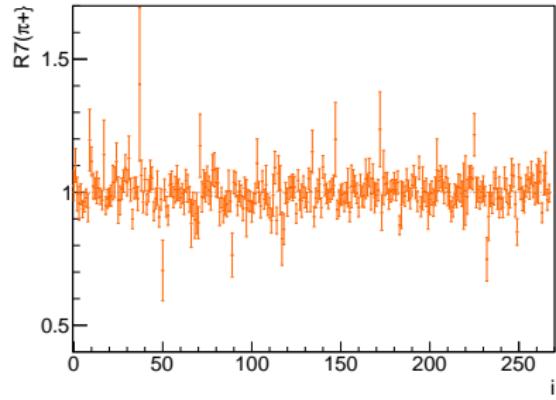
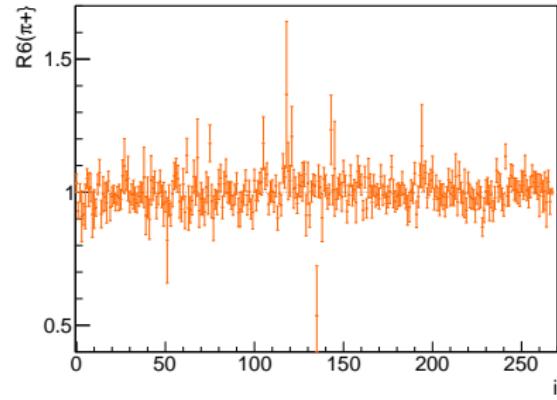
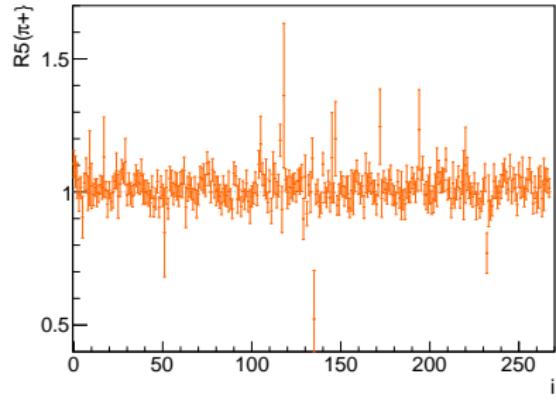
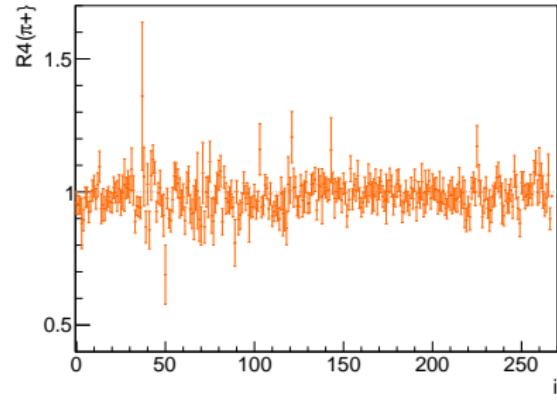


- Definition: Cell_{polarisation,fielddirection}
- $\frac{U_{++}}{M1_{-+}} \frac{M1_{++}}{U_{-+}} \approx 1 + a_{1+} \cdot (\langle w_{U++} \rangle + \langle w_{U-+} \rangle + \langle w_{M1++} \rangle + \langle w_{M1-+} \rangle)$
- $\frac{D_{++}}{M2_{-+}} \frac{M2_{++}}{U_{-+}} \approx 1 + a_{2+} \cdot (\langle w_{D++} \rangle + \langle w_{D-+} \rangle + \langle w_{M2++} \rangle + \langle w_{M2-+} \rangle)$
- $\frac{U_{++}}{M2_{-+}} \frac{M2_{++}}{U_{-+}} \approx 1 + a_{3+} \cdot (\langle w_{U++} \rangle + \langle w_{U-+} \rangle + \langle w_{M2++} \rangle + \langle w_{M2-+} \rangle)$
- $\frac{D_{++}}{M1_{-+}} \frac{M1_{++}}{U_{-+}} \approx 1 + a_{4+} \cdot (\langle w_{D++} \rangle + \langle w_{D-+} \rangle + \langle w_{M1++} \rangle + \langle w_{M1-+} \rangle)$
- Same equations for negative field direction
- Needed:
 - Equal amount of runs in all groups
 - Stable ratios

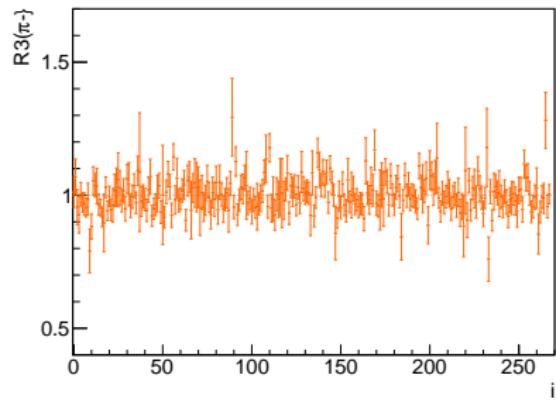
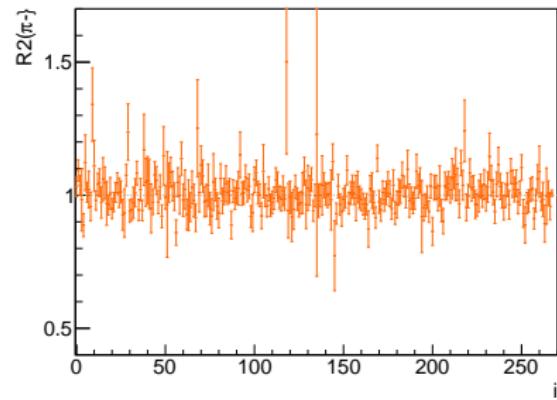
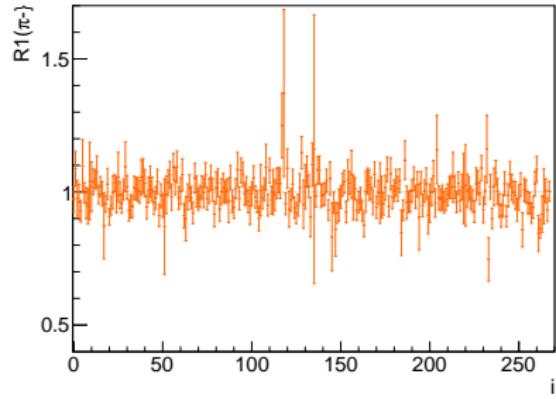
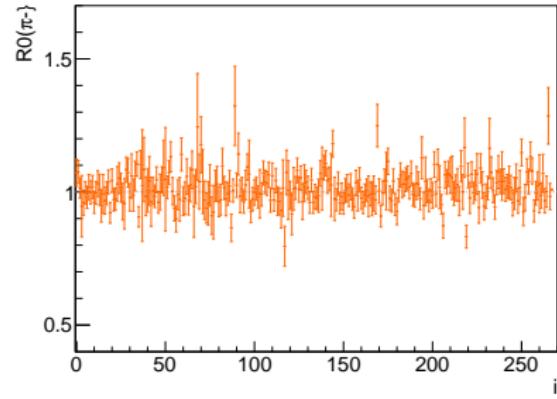
Ratios 2011



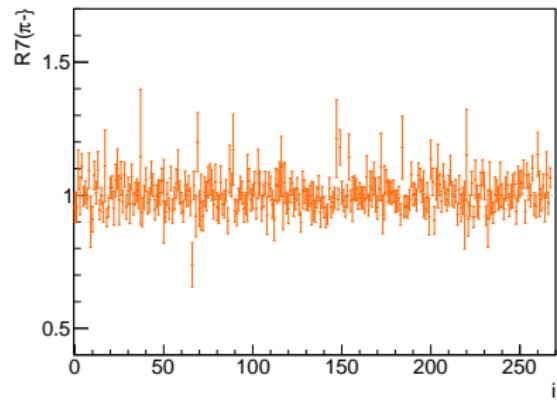
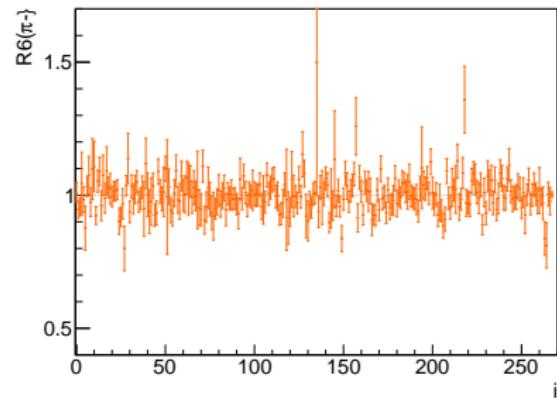
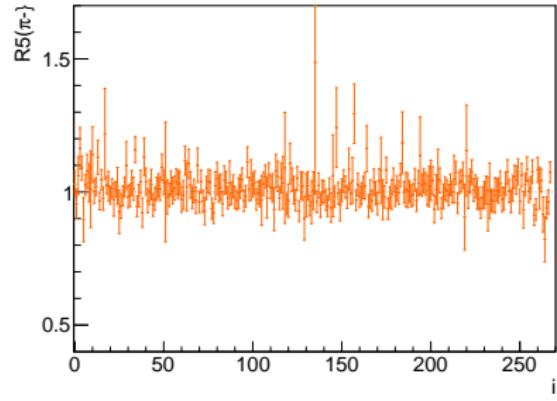
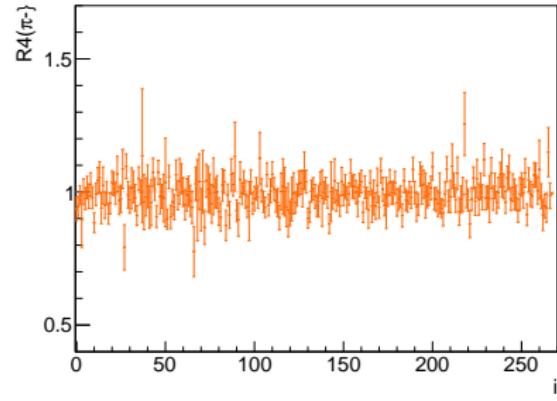
Ratios 2011



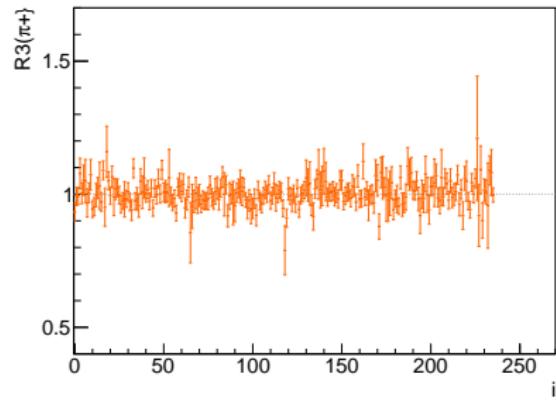
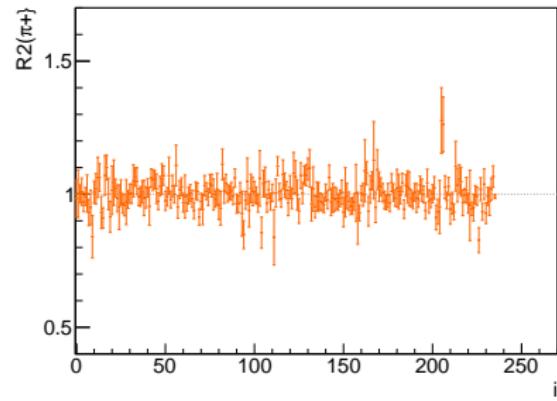
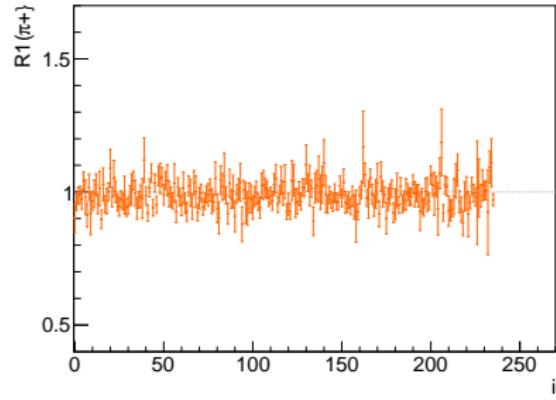
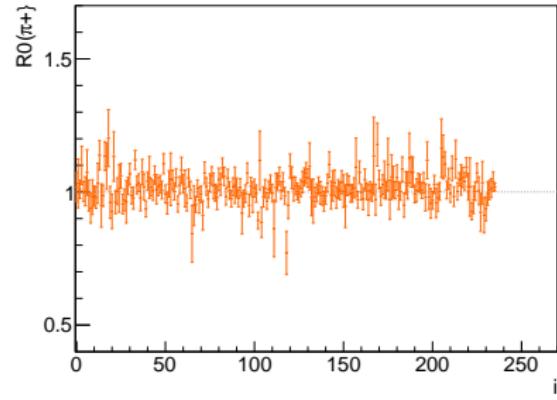
Ratios 2011



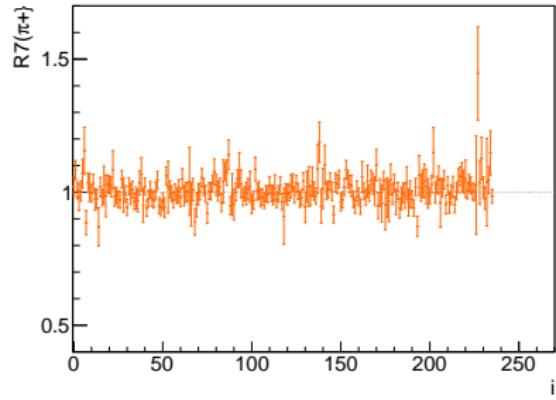
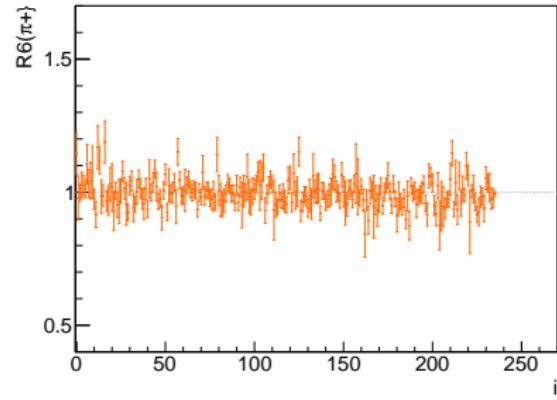
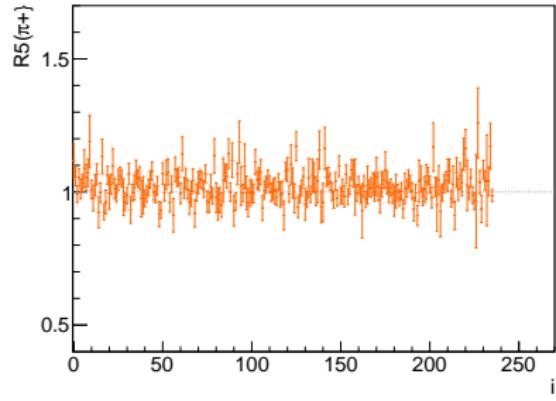
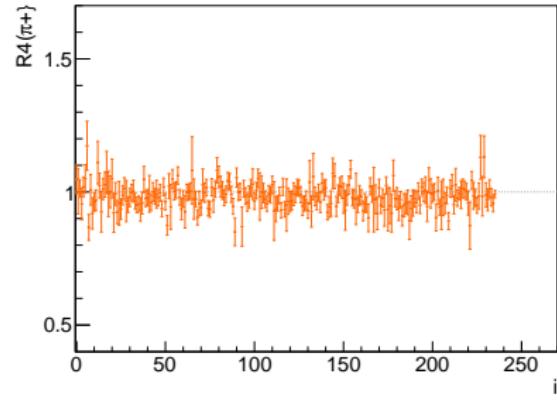
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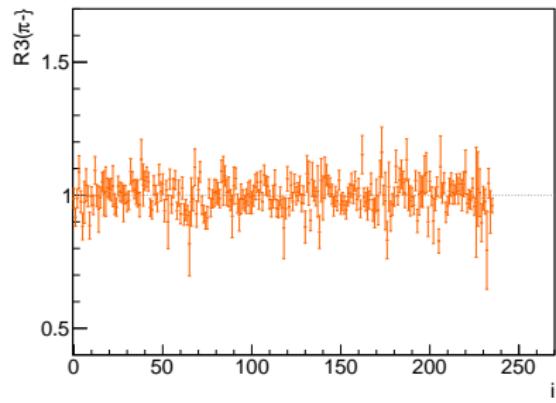
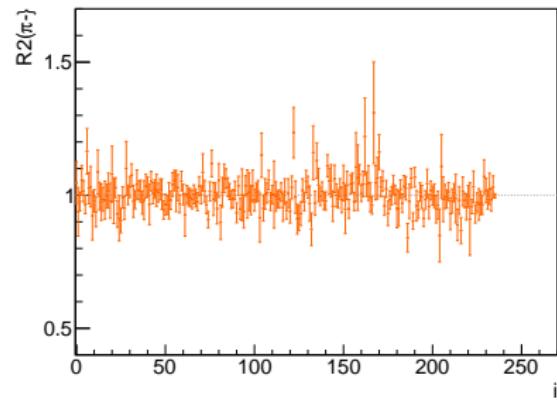
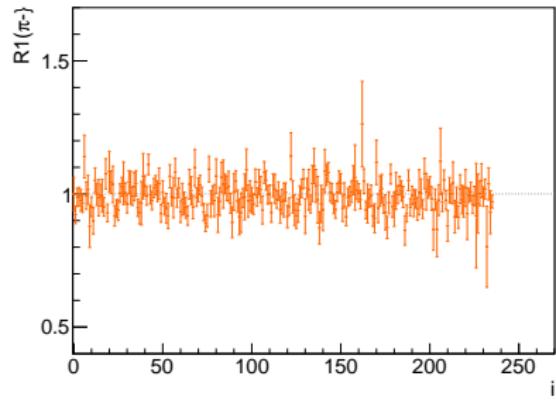
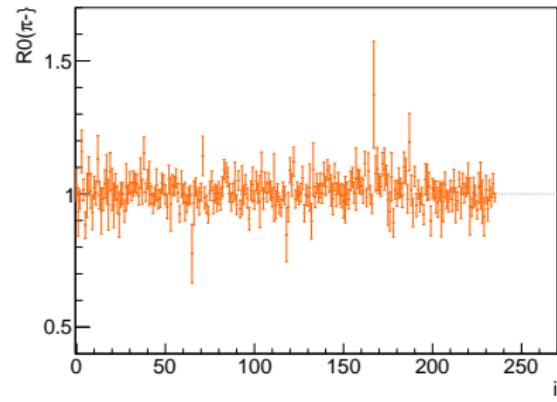
Ratios 2007



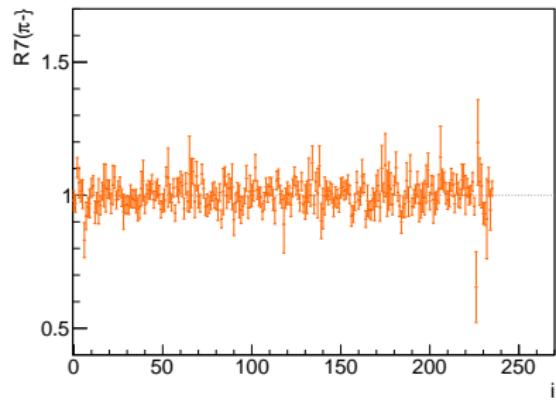
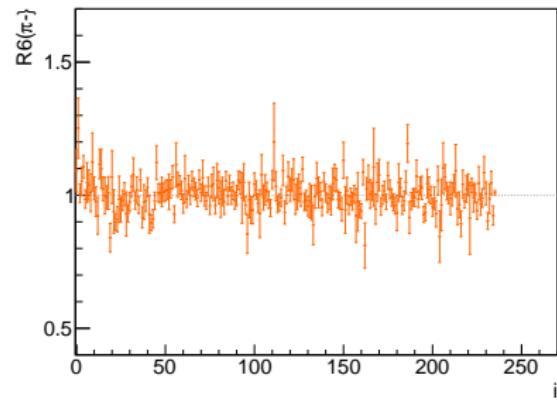
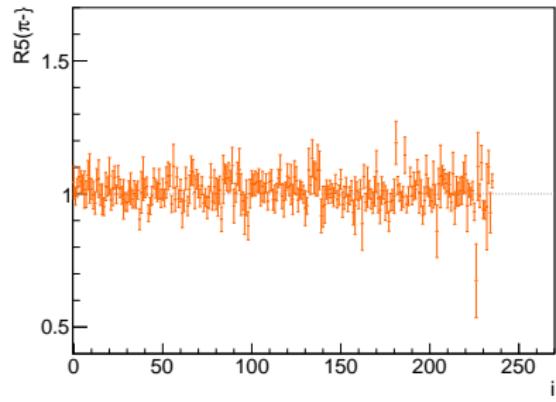
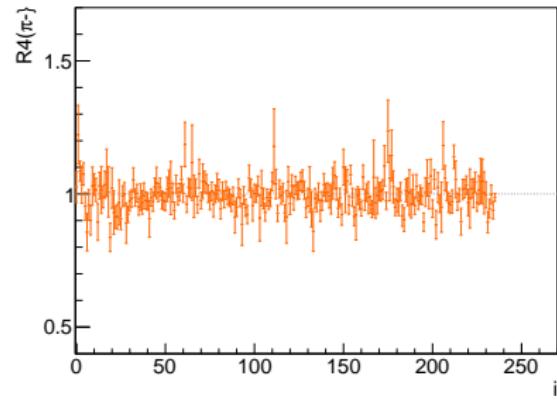
Ratios 2007



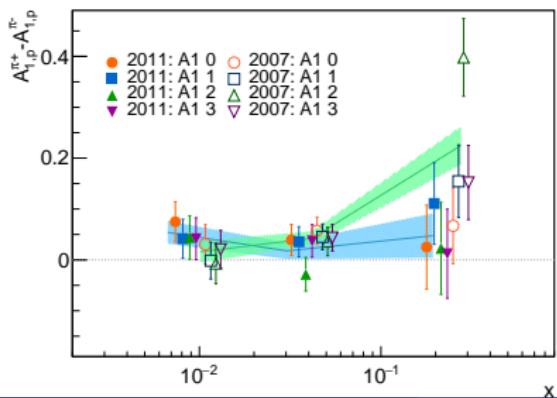
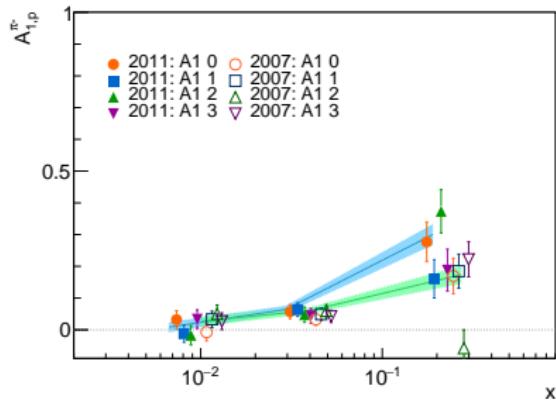
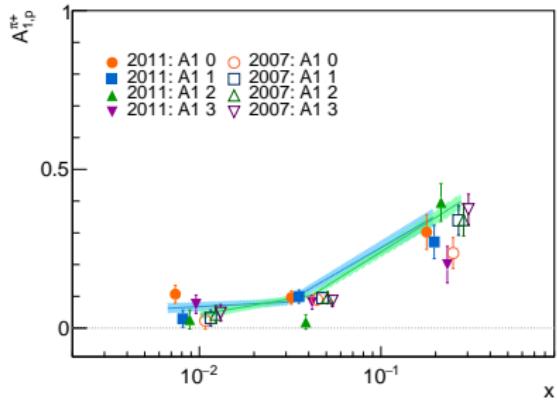
Ratios 2007



Ratios 2007



Results I



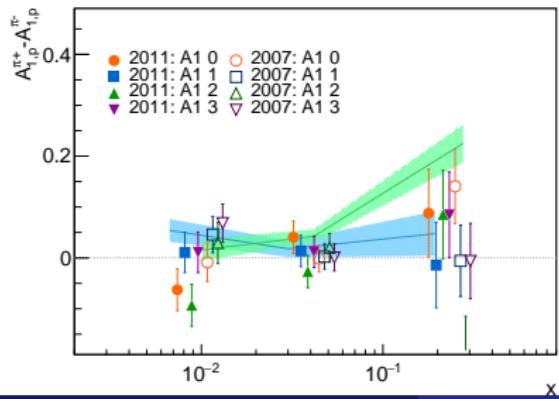
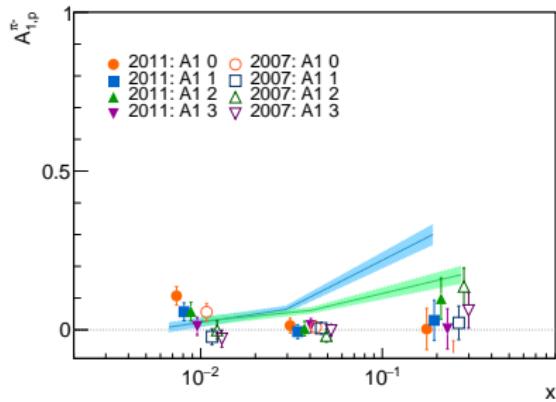
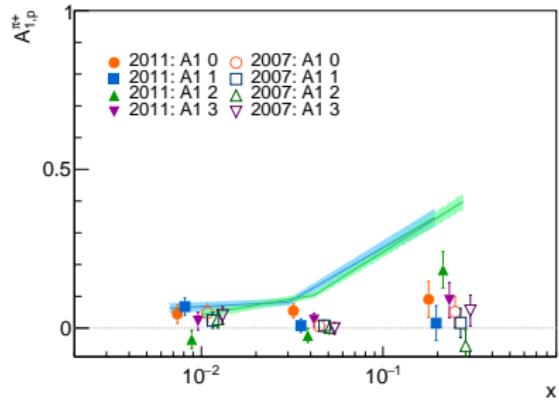
A1 0 $U_{\pm+}, M1_{\pm+}$

A1 1 $D_{\pm+}, M2_{\pm+}$

A1 2 $U_{\pm-}, M1_{\pm-}$

A1 3 $D_{\pm-}, M2_{\pm-}$

Results I



A1 0 $U_{\pm+}, M2_{\pm+}$

A1 1 $D_{\pm+}, M1_{\pm+}$

A1 2 $U_{\pm-}, M2_{\pm-}$

A1 3 $D_{\pm-}, M1_{\pm-}$