Rich table 2011 and Bjorken sum rule

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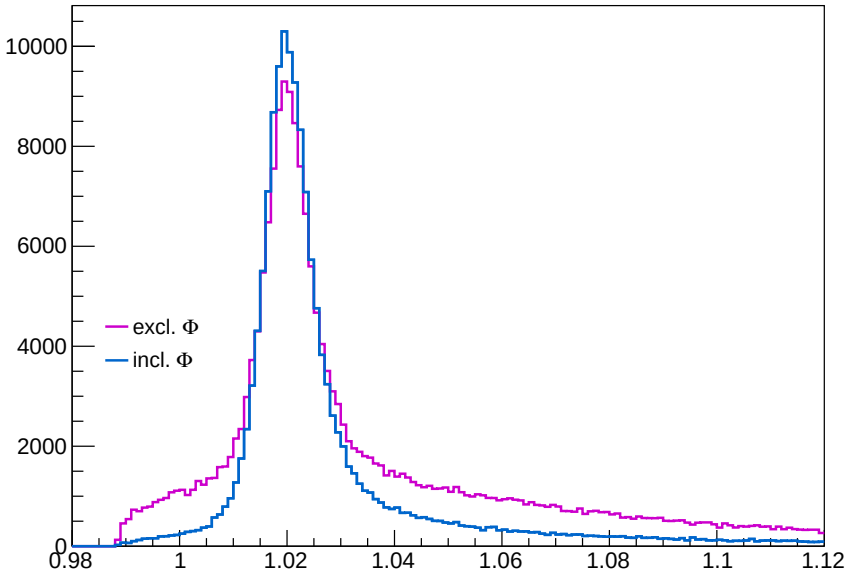
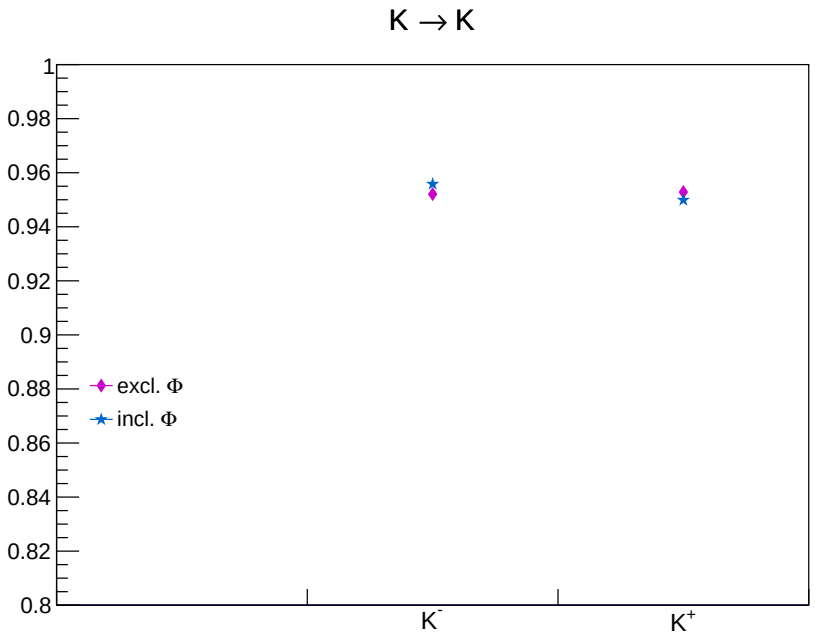
Influence of inclusive / exclusive ϕ

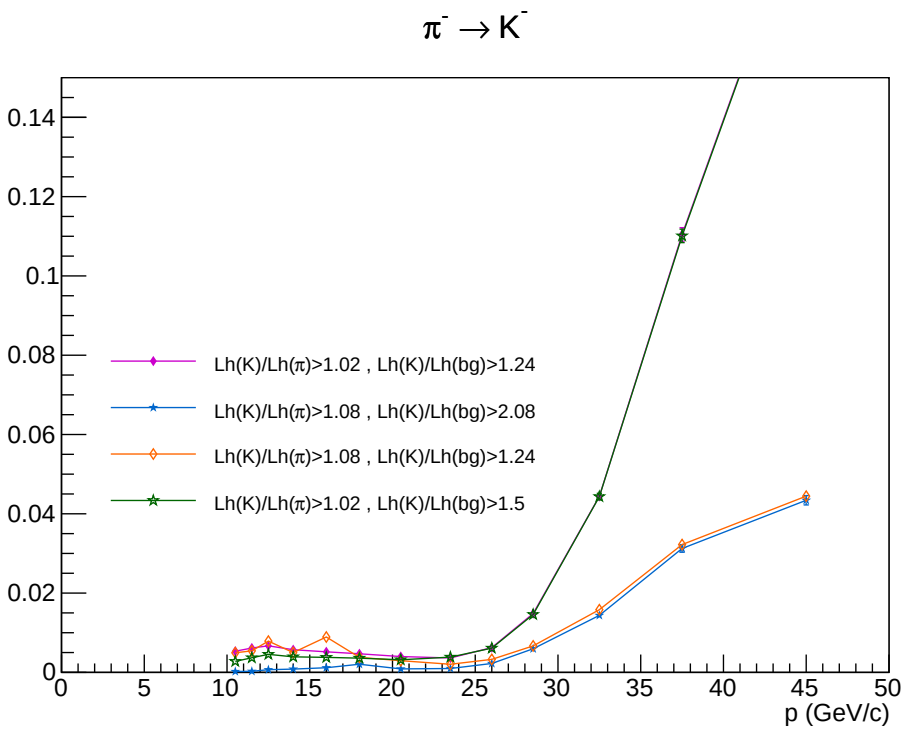
- Using only W36 for inclusive ϕ selection
- Nearly same number of selected ϕ as in exclusive case
- Problem: Fit becomes unstable
- No influence from exclusive ϕ

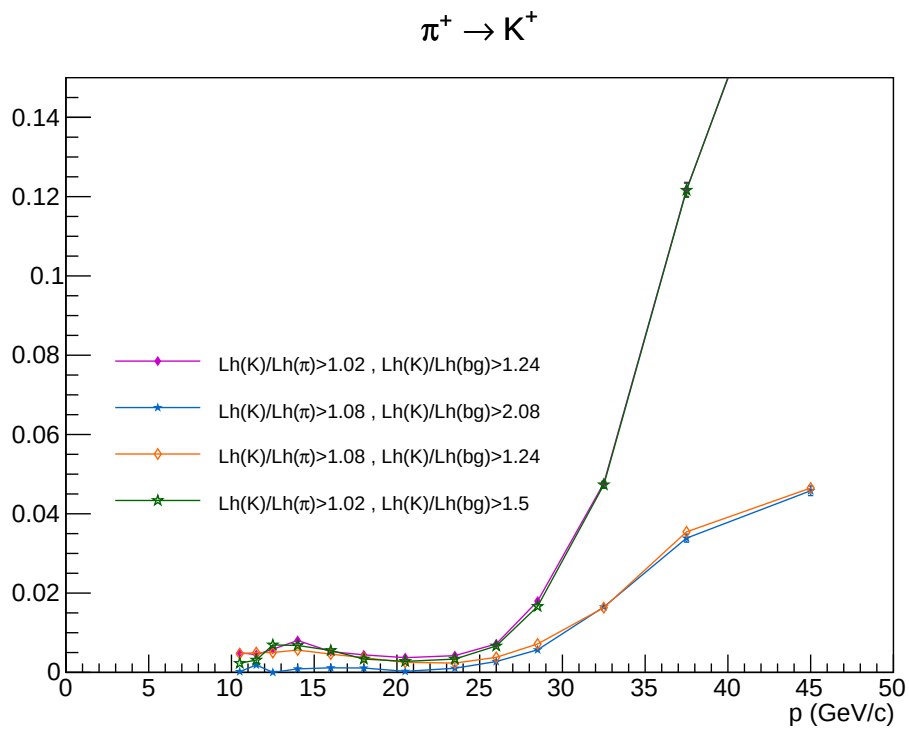




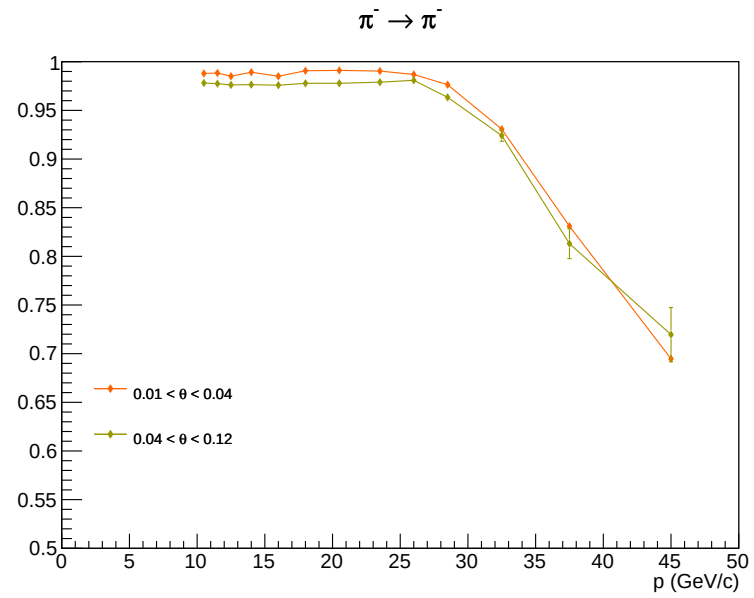
Improve the missidentification of $\pi \rightarrow K$

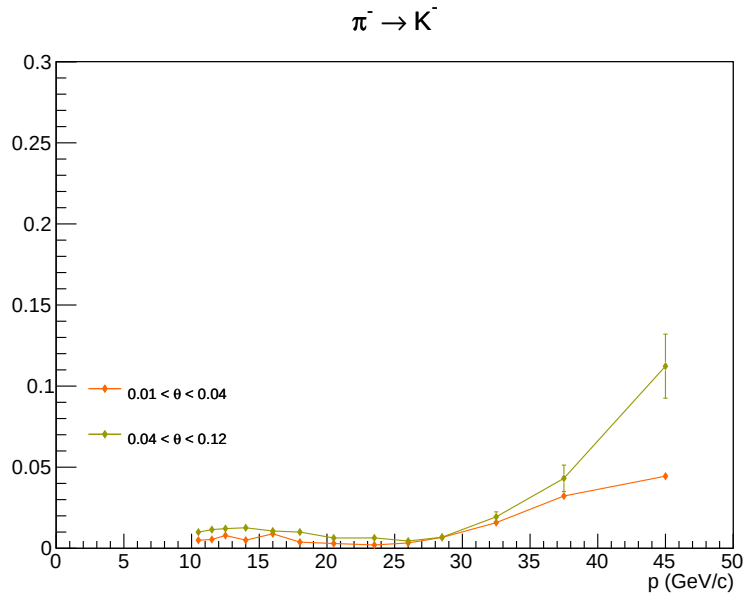
- Change $LH(K)/LH(\pi)(1.02 \rightarrow 1.08)$
- Change $LH(K)/LH(bg)(1.24 \rightarrow 1.5)$
- Compare the the two results to the results from the original and the multiplicity cuts

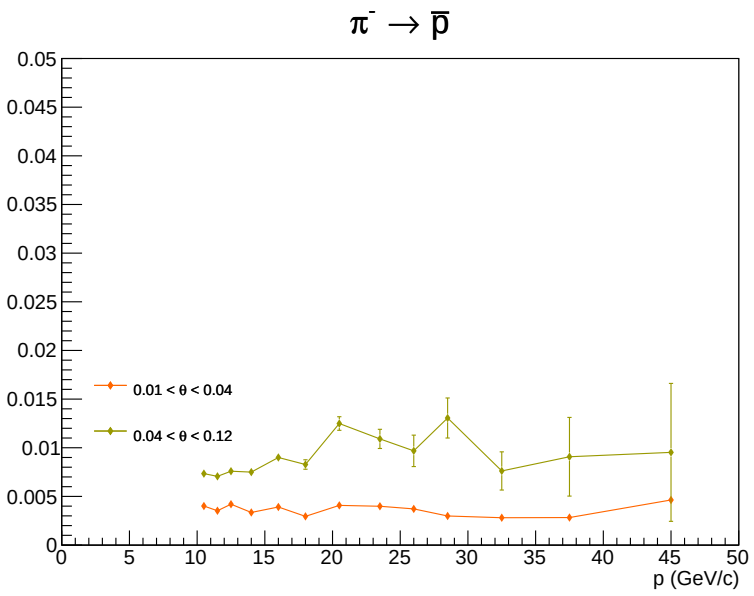


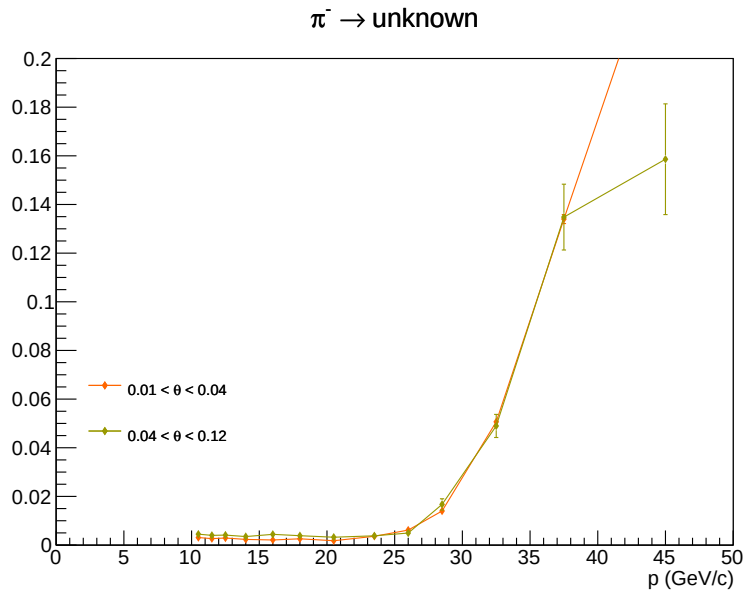


RICH π^- new LH cuts for kaons

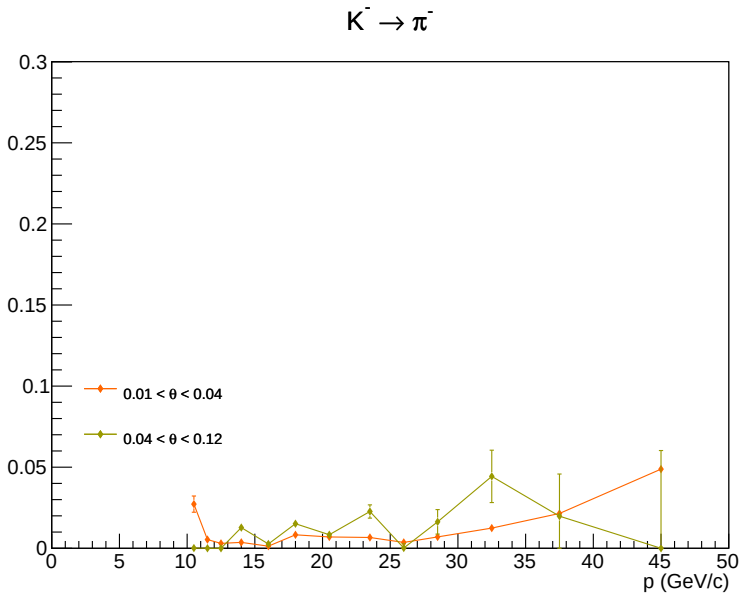


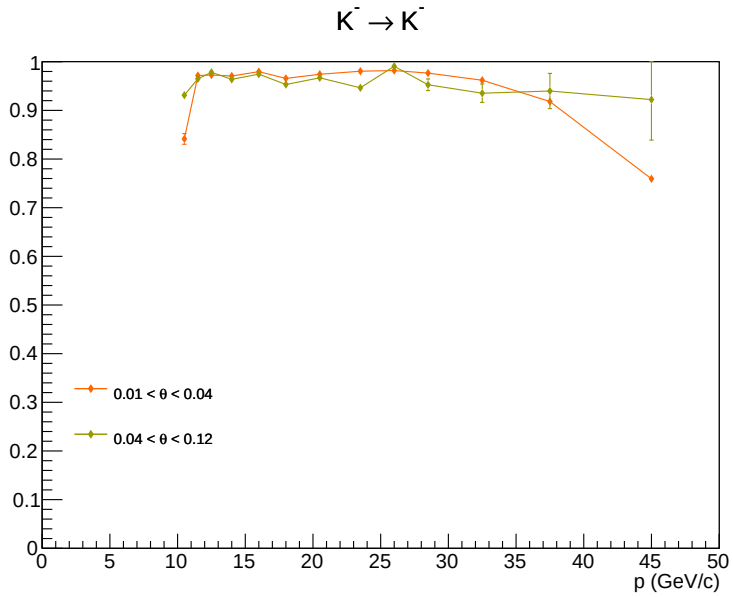


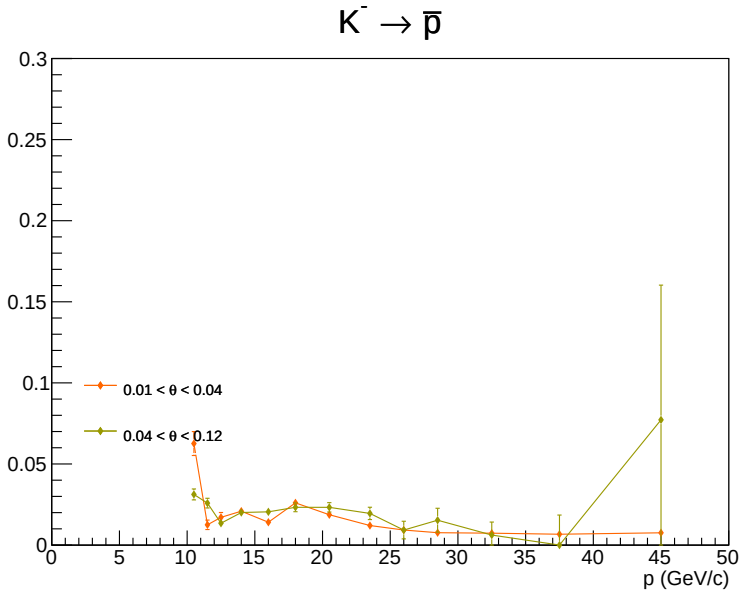


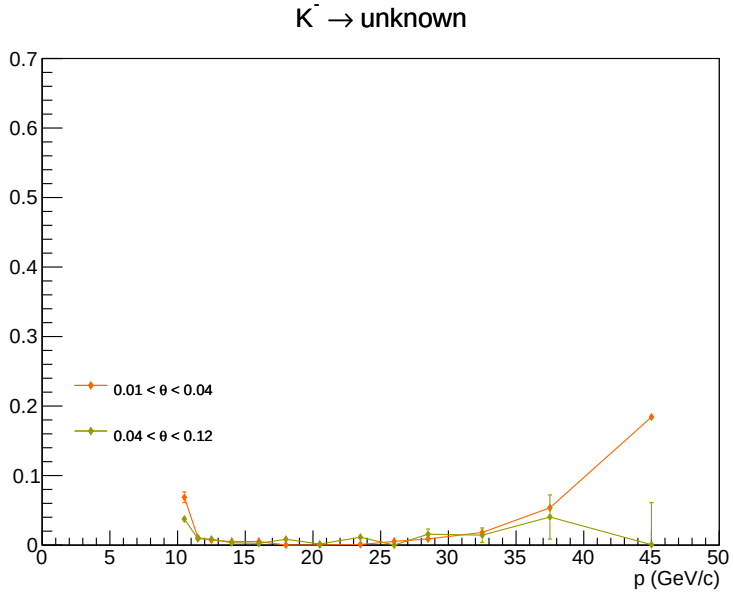


RICH K^- new LH cuts for kaons

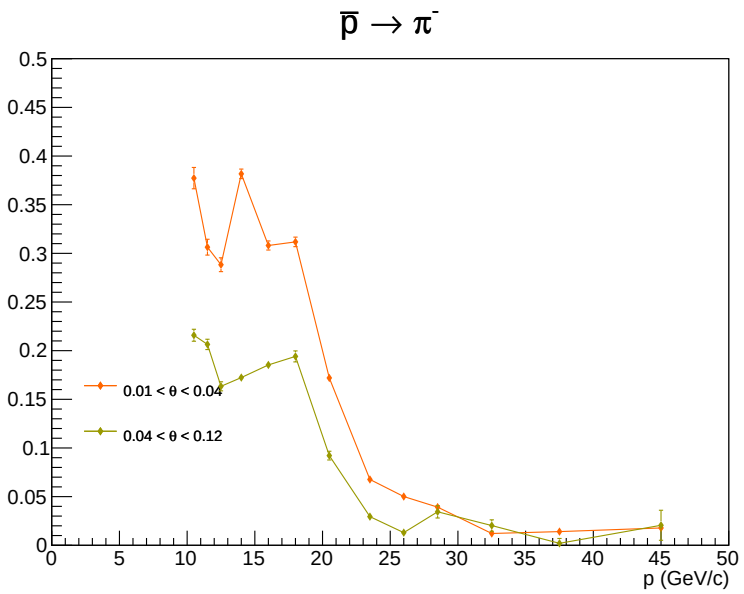


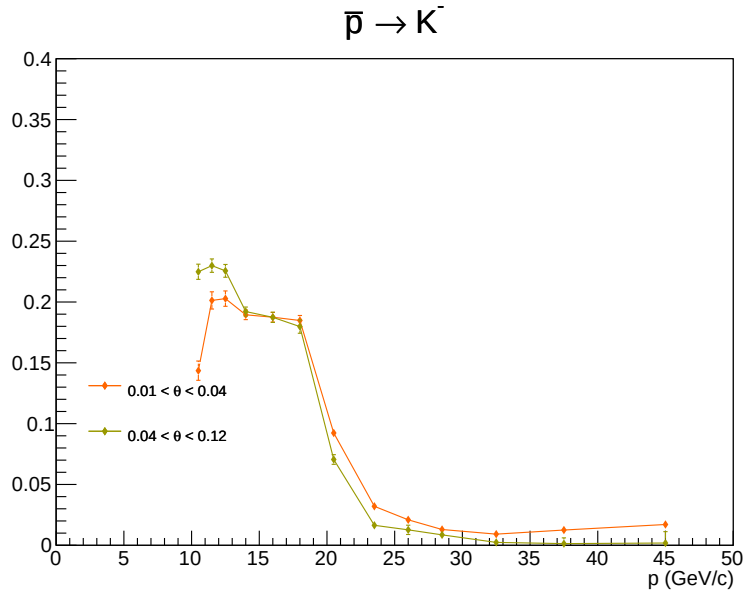


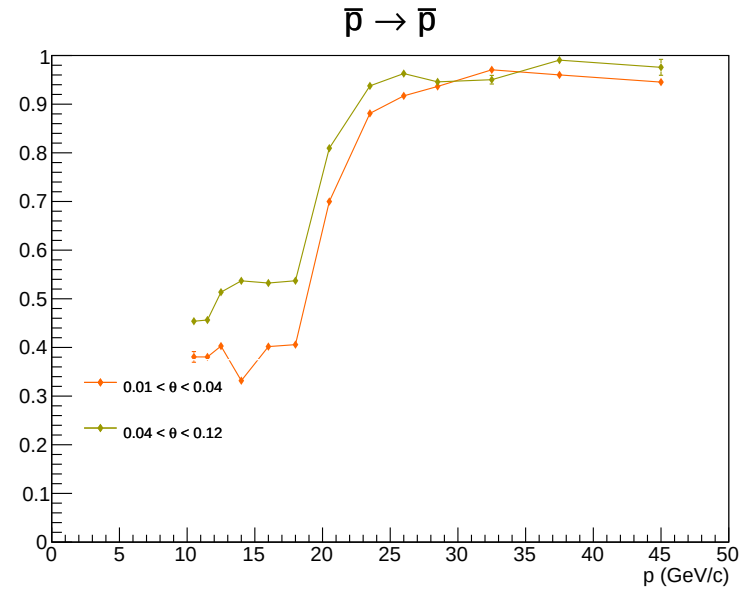


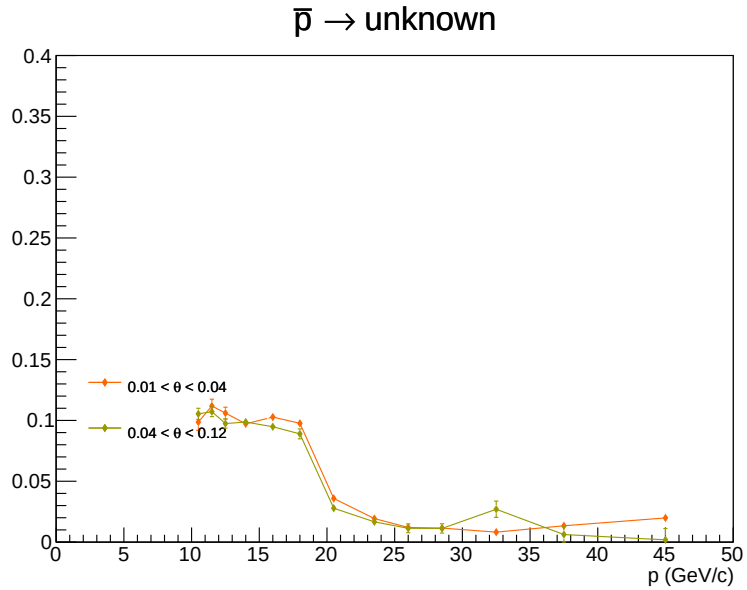


RICH $\bar{p}$ new LH cuts for kaons







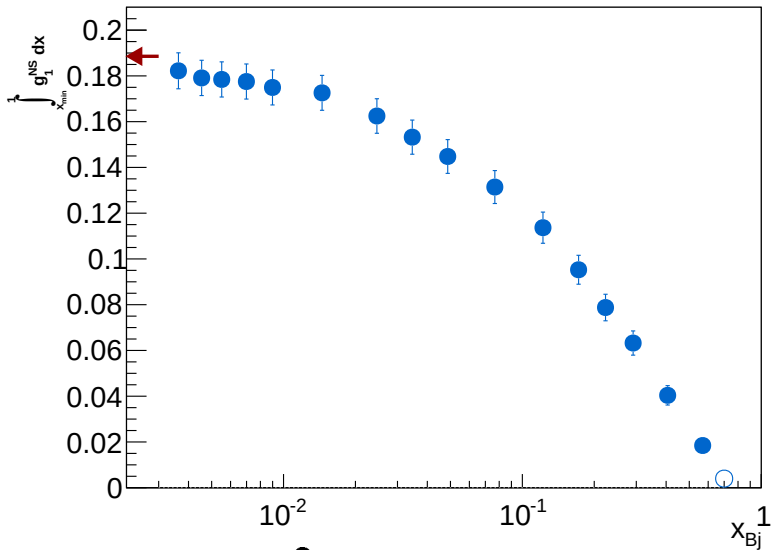


Bjorken sum Rule

Bjorken sum rule

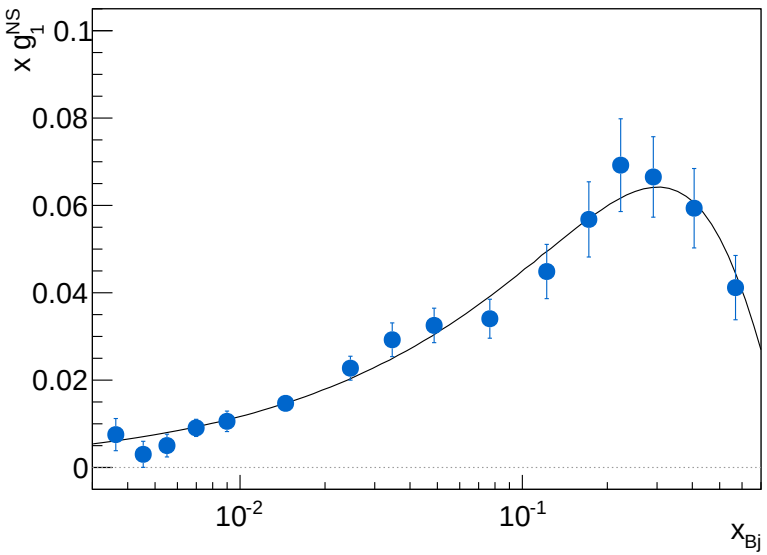
- Problem: Difference between fit and manual calculation of g_A/g_V
- Compare the integral from the data and the fit
- $\Gamma_1^{NS} = \frac{1}{6} C_1^{NS} \frac{g_A}{g_V}$
- $C_1^{NS} = 1 - \frac{\alpha_s}{\pi} - 3.58 \left(\frac{\alpha_s}{\pi}\right)^2$

Param.	Value
Q^2_{ref}	3 GeV^2
$\eta_3 = g_A/g_V$	1.23 ± 0.056
α_3	-0.19 ± 0.062
β_3	2.65 ± 0.43
χ^2/NDF	8.47/13



$g_A/g_V(3\ \text{GeV}^2) = 1.316 \pm 0.055$

Check the integrals



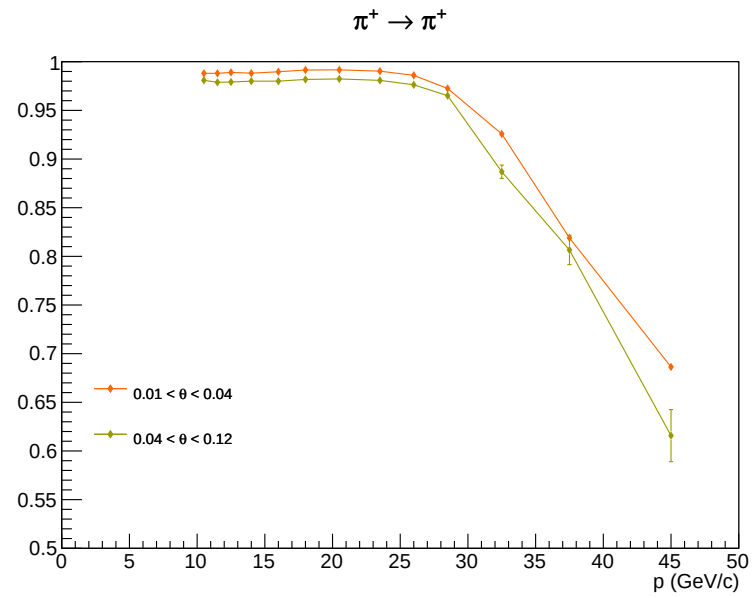
x range	$\Gamma_1^{NS}(1.5\ \mathrm{GeV}^2)$	$\Gamma_1^{NS}(3\ \mathrm{GeV}^2)$	$\Gamma_1^{NS}(9\ \mathrm{GeV}^2)$
$0 - 0.0025$	0.0055	0.0063	0.0076
$0.0025 - 0.7$	$\mathbf{0.1722 \pm 0.0079}$	$\mathbf{0.1782 \pm 0.0079}$	$\mathbf{0.1830 \pm 0.0079}$
$0.0025 - 0.7$	**0.1696** (fit)	**0.1756** (fit)	**0.1805** (fit)
$0.7 - 1.0$	0.0057	0.0040	0.0025
$0 - 1.0$	0.1833 ± 0.0079	0.1886 ± 0.0079	0.1932 ± 0.0079
g_A/g_V	1.356 ± 0.058	1.316 ± 0.055	1.293 ± 0.053

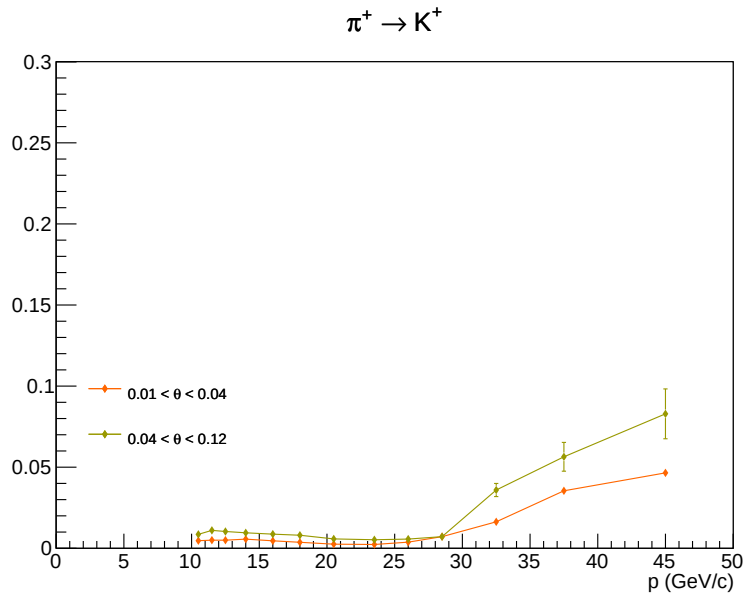
Summary

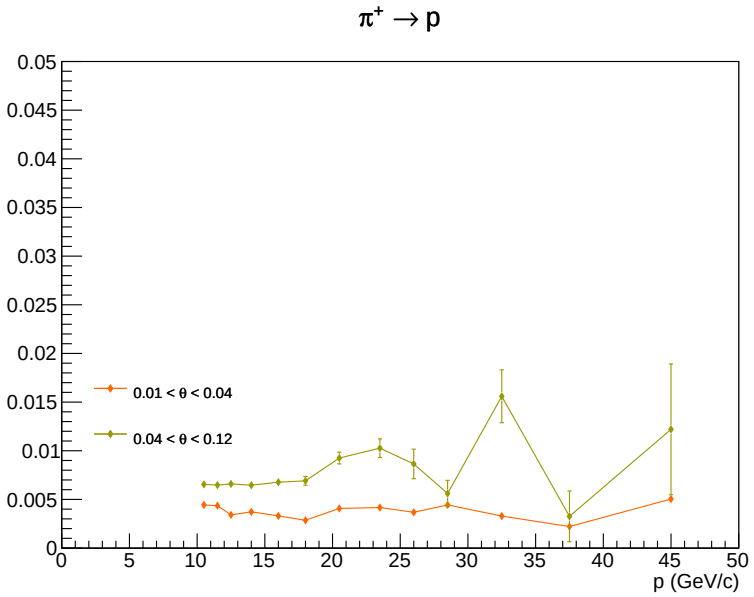
- Rich tables
  - Reduced the missidentifikation of Pions as Kaons
  - Checked the influence of inclusive ϕ's
- Bjorken sum rule
  - No difference inside the measured range between the fit and the data points
  - Difference between the value of g_A/g_V from the fit and the "data points"
  - Q^2 dependence of g_A/g_V from the "data points"

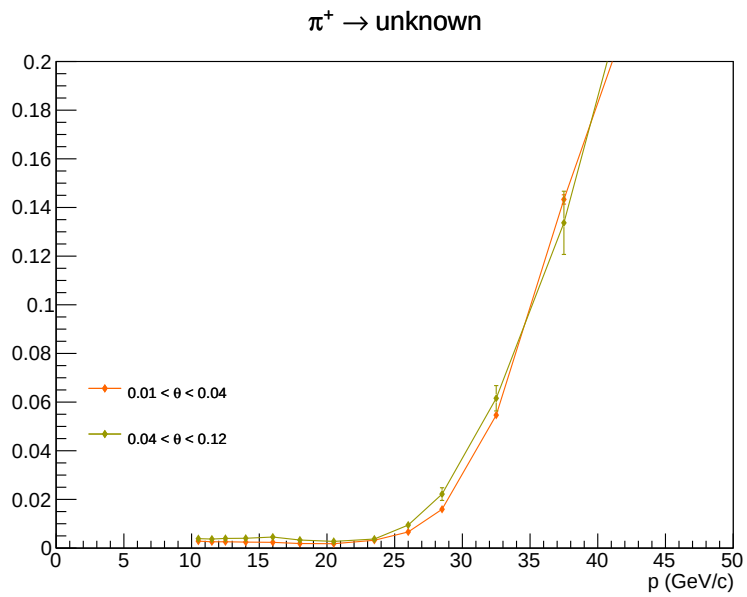
Bakup

RICH π^+ new LH cuts for kaons









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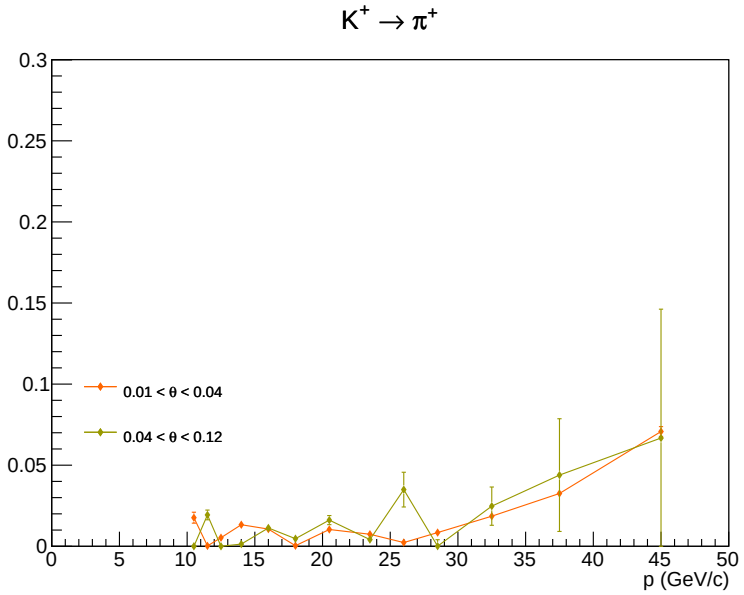

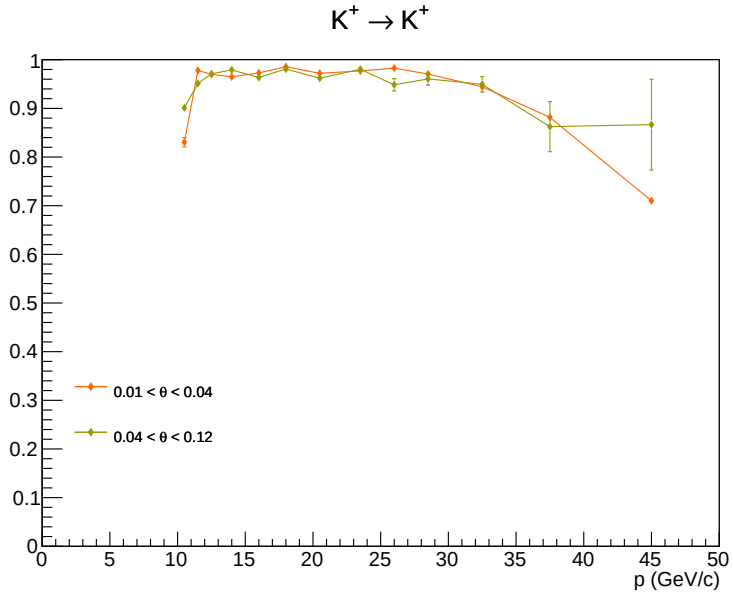

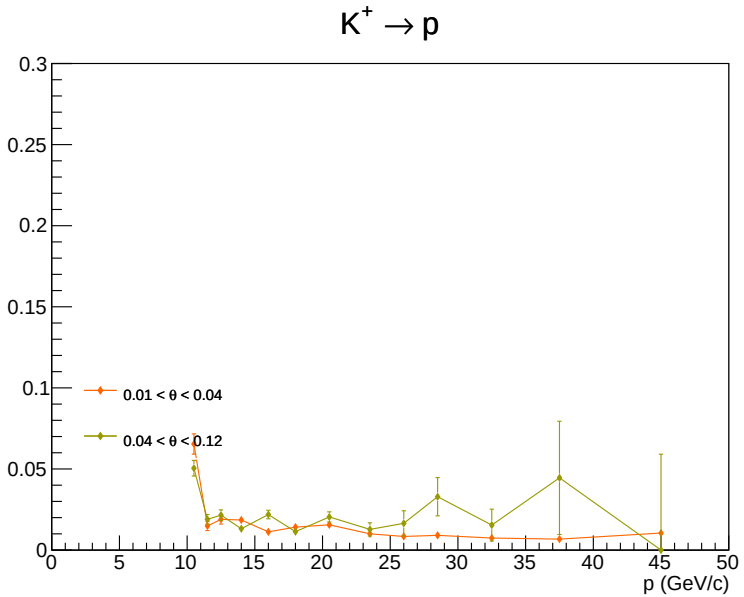

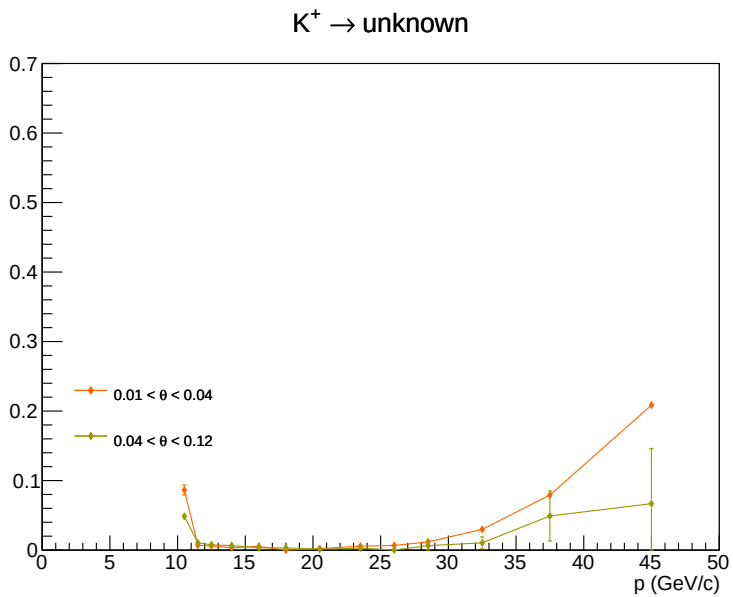

RICH p new LH cuts for kaons