

# Scaled Momentum Spectra in the Target Region in DIS

## Status Report

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# Event selection

**Data** 04/06e/06p/07p

Evtake, STTtake

## Trigger

SPP02,SPP09

## Electron / positron

Siprob[0] >0.9

$E_e > 10 \text{ GeV}$

lepton box cut >20

Chimney cut

Sienin[0]

## Cleaning cuts

reconstructed vertex  $|Z_{\text{ vtx}}| < 40 \text{ cm}$

$40 \text{ GeV} < E - p_z < 60 \text{ GeV}$

## Physics & Kinematics Requirements

$Q_{\text{ DA}}^2 > 10 \text{ GeV}^2$

$y_{\text{ el}} < 0.95$

$y_{\text{ JB}} > 0.04$

## Track selection

tracks associated with primary vertex

$p_{\text{ T}} > 150 \text{ MeV}$

$-1.75 < \eta < 2.7$

- for the analysis 04, 06e, 06/07p were used
- no STT in 2005 due to insufficient cooling

# Event Acceptances

MC ARIADNE 4.12

04/06e/06p/07p

$X_{Bj} \rightarrow 1.0 \times 10^{-4} - 0.75$

1  $\rightarrow$  19-th bin

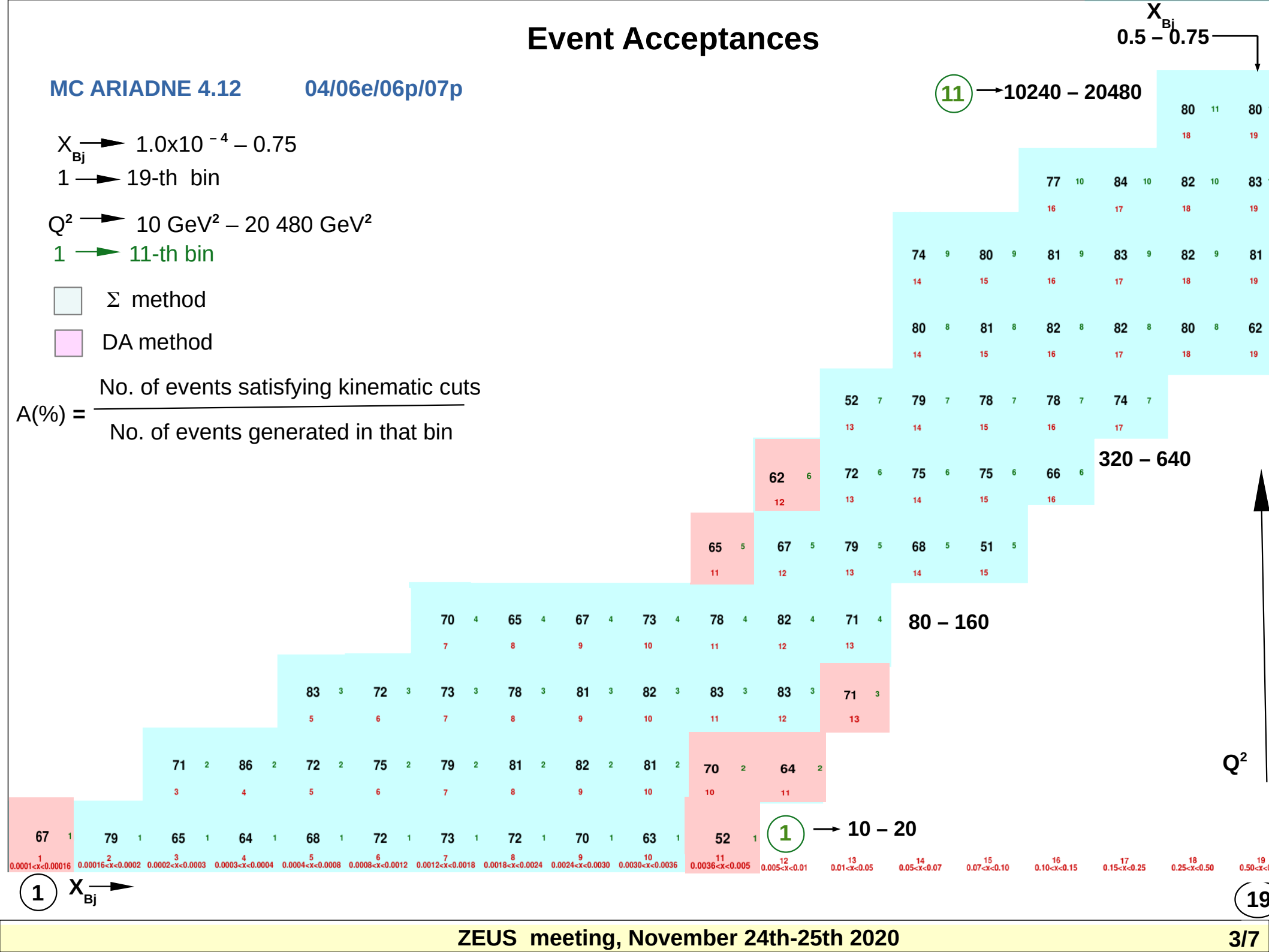
$Q^2 \rightarrow 10 \text{ GeV}^2 - 20\,480 \text{ GeV}^2$

1  $\rightarrow$  11-th bin

$\square$   $\Sigma$  method

$\square$  DA method

$$A(\%) = \frac{\text{No. of events satisfying kinematic cuts}}{\text{No. of events generated in that bin}}$$



# Track Acceptances

MC ARIADNE 4.12

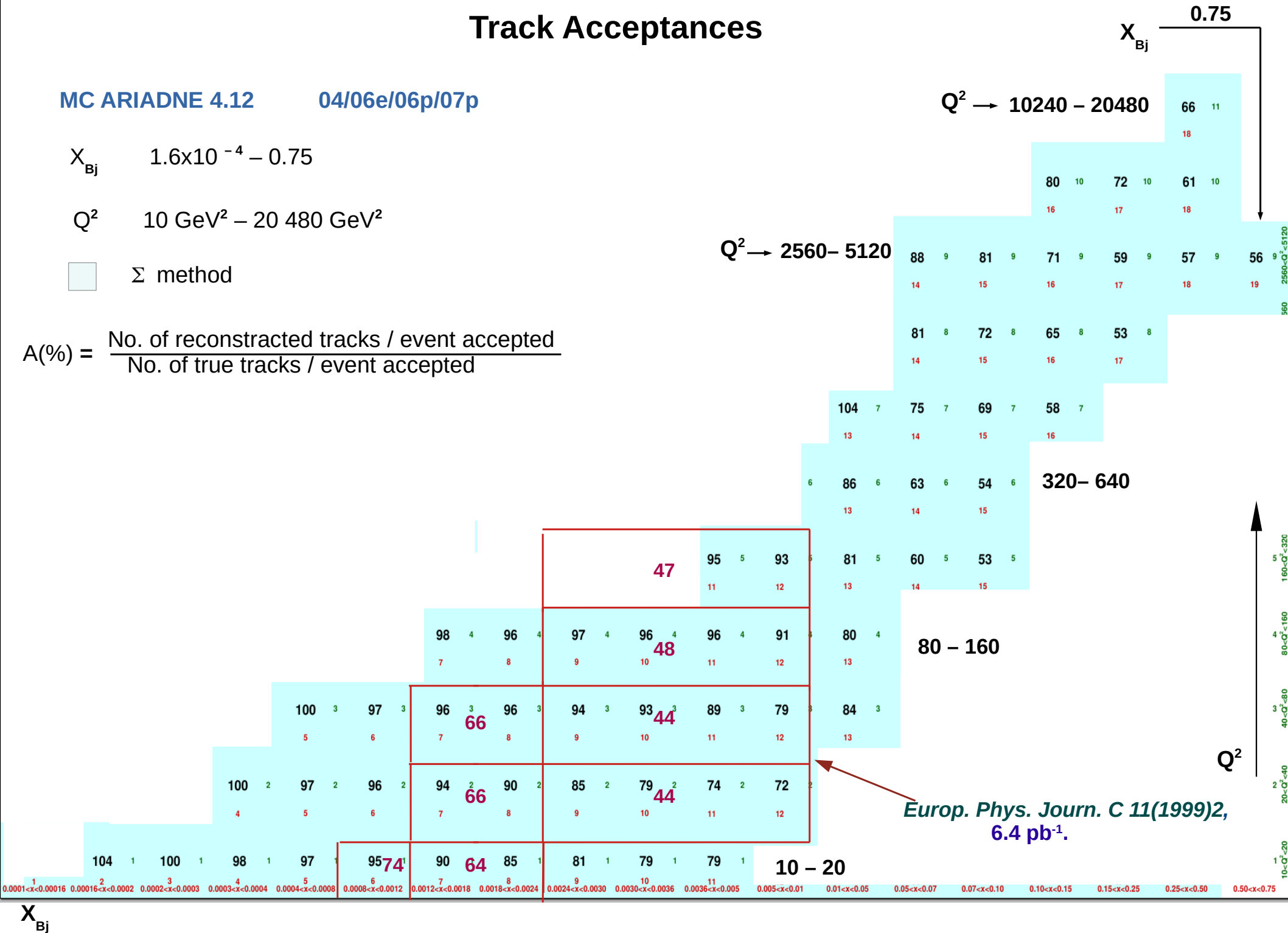
04/06e/06p/07p

$X_{Bj}$   $1.6 \times 10^{-4} - 0.75$

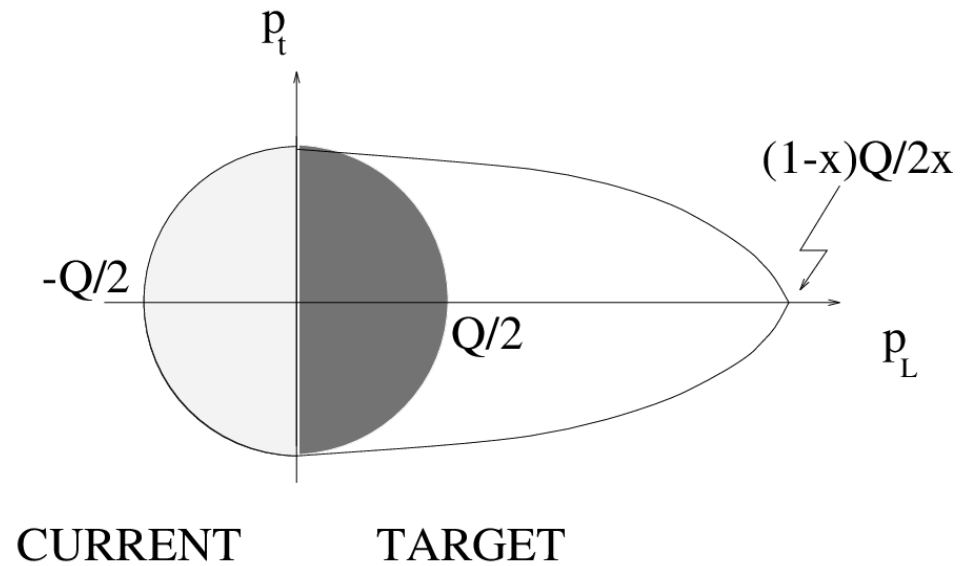
$Q^2$   $10 \text{ GeV}^2 - 20\,480 \text{ GeV}^2$

$\square$   $\Sigma$  method

$$A(\%) = \frac{\text{No. of reconstructed tracks / event accepted}}{\text{No. of true tracks / event accepted}}$$

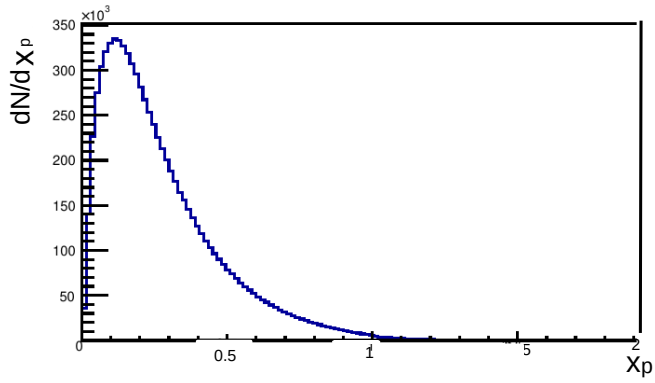


## What scale should be used in the analysis?

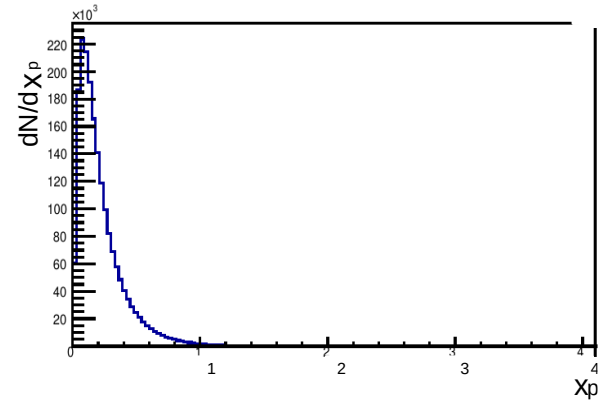


$$X_p = \frac{p^{Breit}}{p_{max}}$$

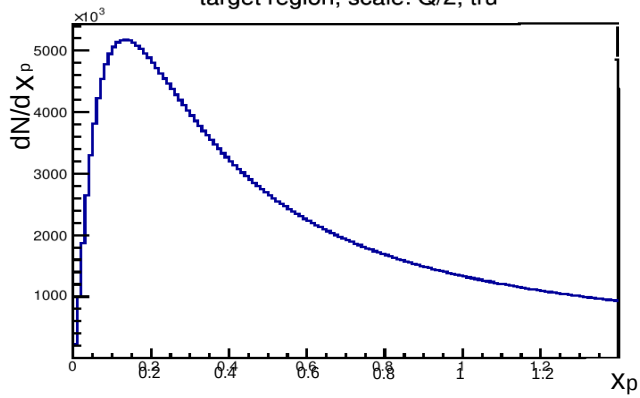
current region, scale Q/2, tru



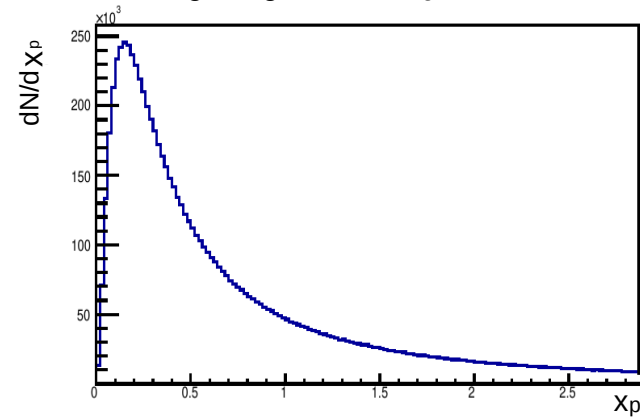
current region, scale Q/2, dat



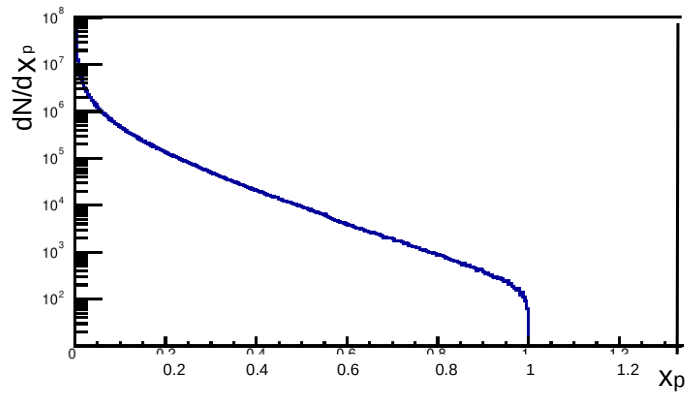
target region, scale: Q/2, tru



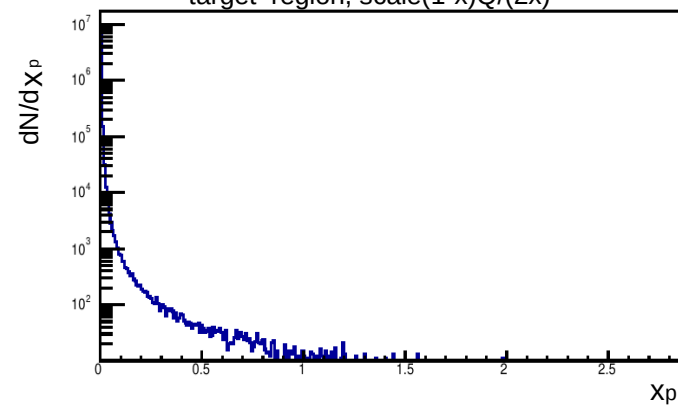
target region, scale Q/2, dat



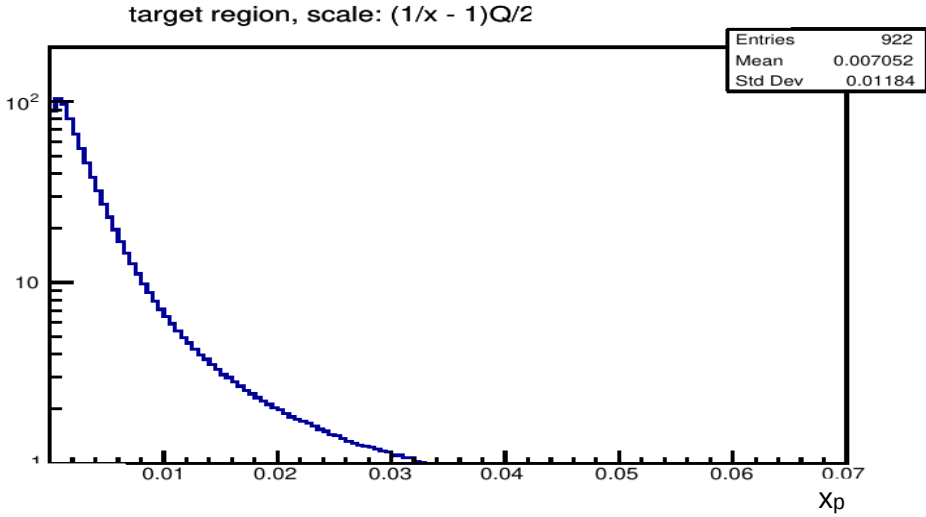
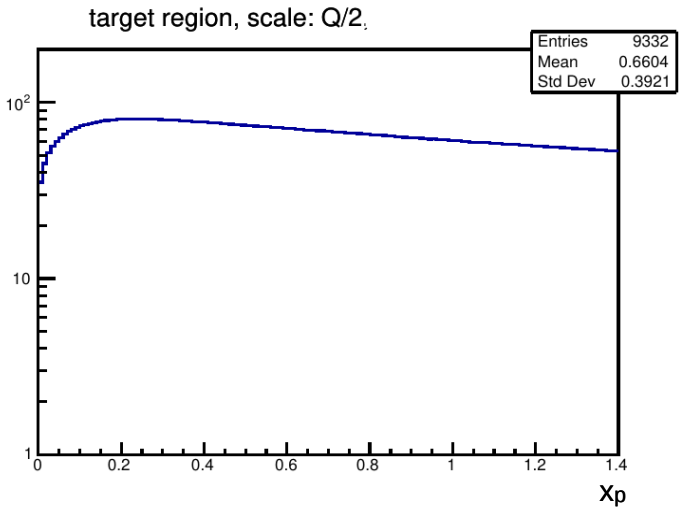
target region, scale (1-x)Q/(2x), tru



target region, scale(1-x)Q/(2x)



# Xp acceptances



tracks with  $X_p < 1$  are used in this analysis

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