

MILOU with PARTONS CFF Tables

MILOU steering:

- Three energies:
 - 18x275 GeV
 - 5x100 GeV
 - 27.6x820
- x (10^{-4} , 1)
- Q^2 (1, 10^5)
- $|t|$ (0.01, 1.5)
- 50k events
- DVCS only

Comparing:

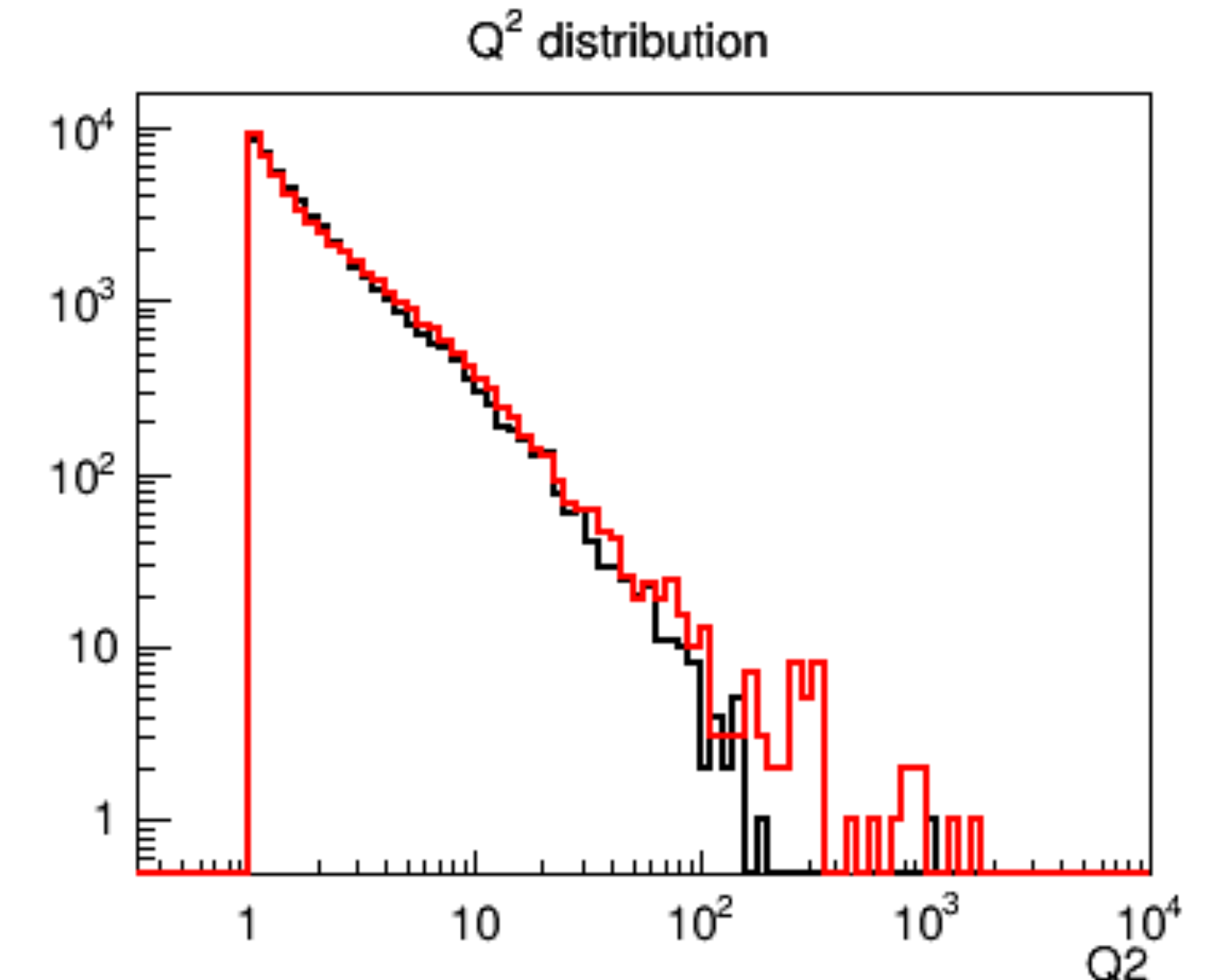
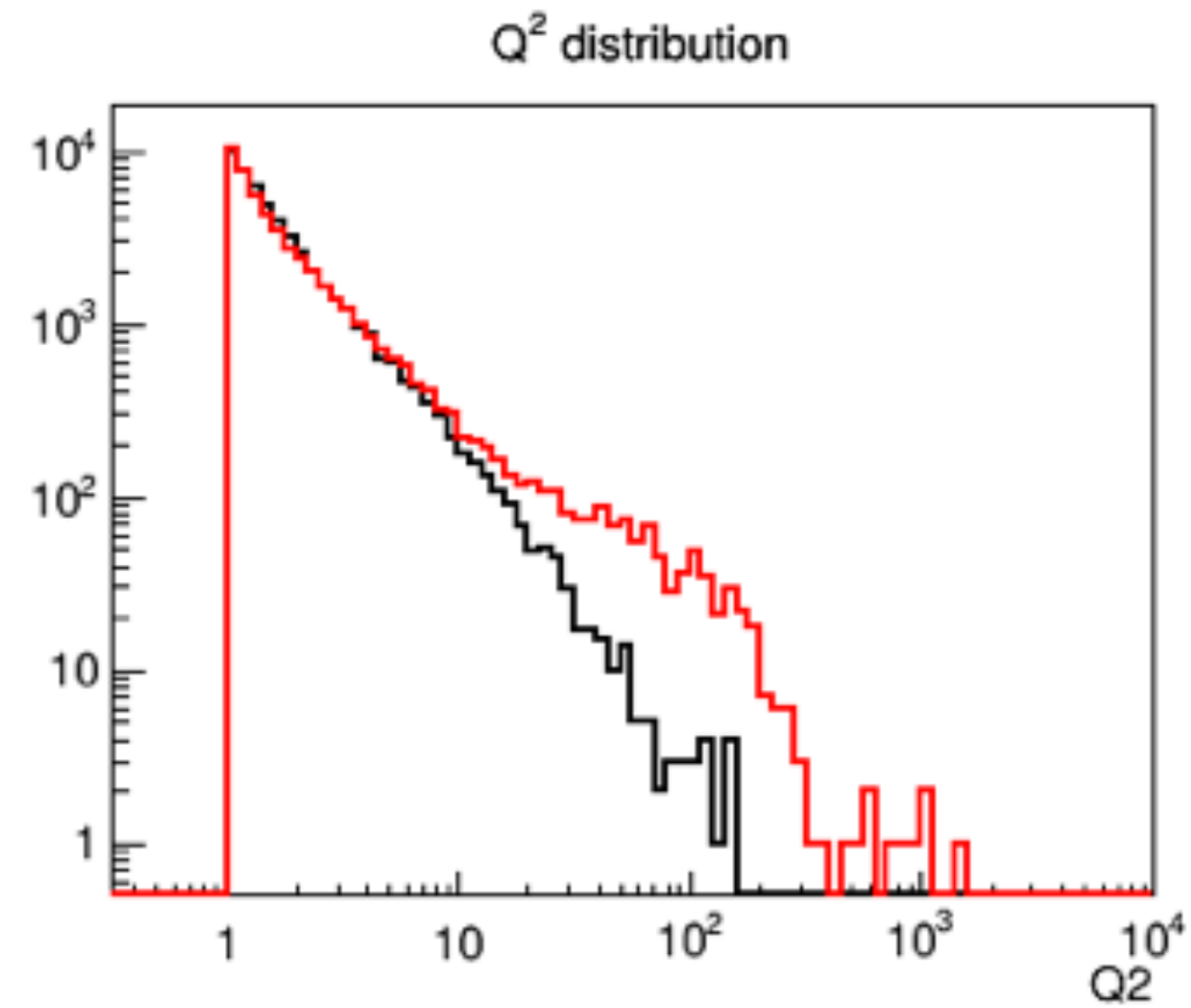
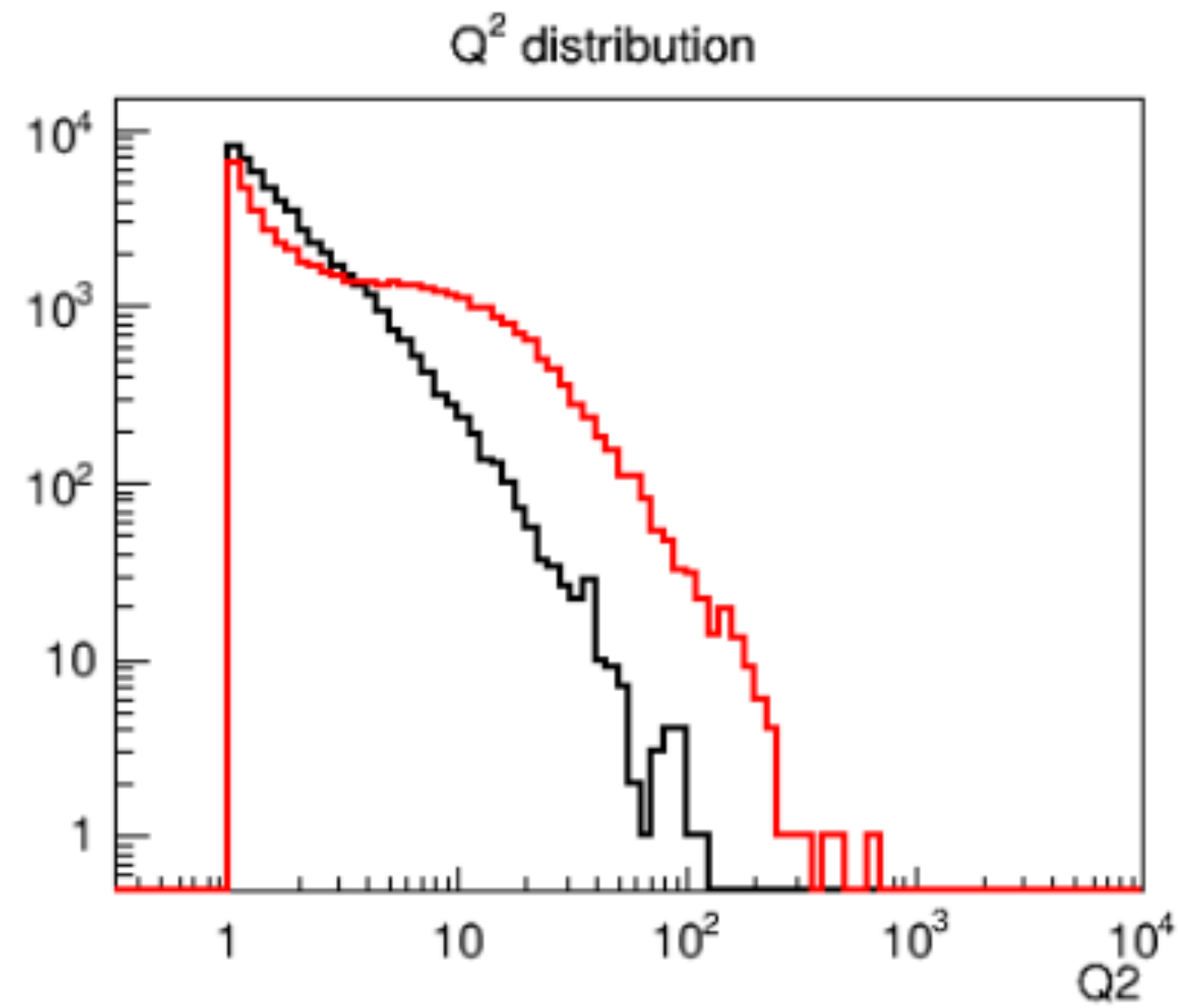
- Event x , Q^2 , $|t|$
- η , p_T (final state proton, photon, electron)

Q2

ep 5x100

ep 18x275

ep 27.6x820

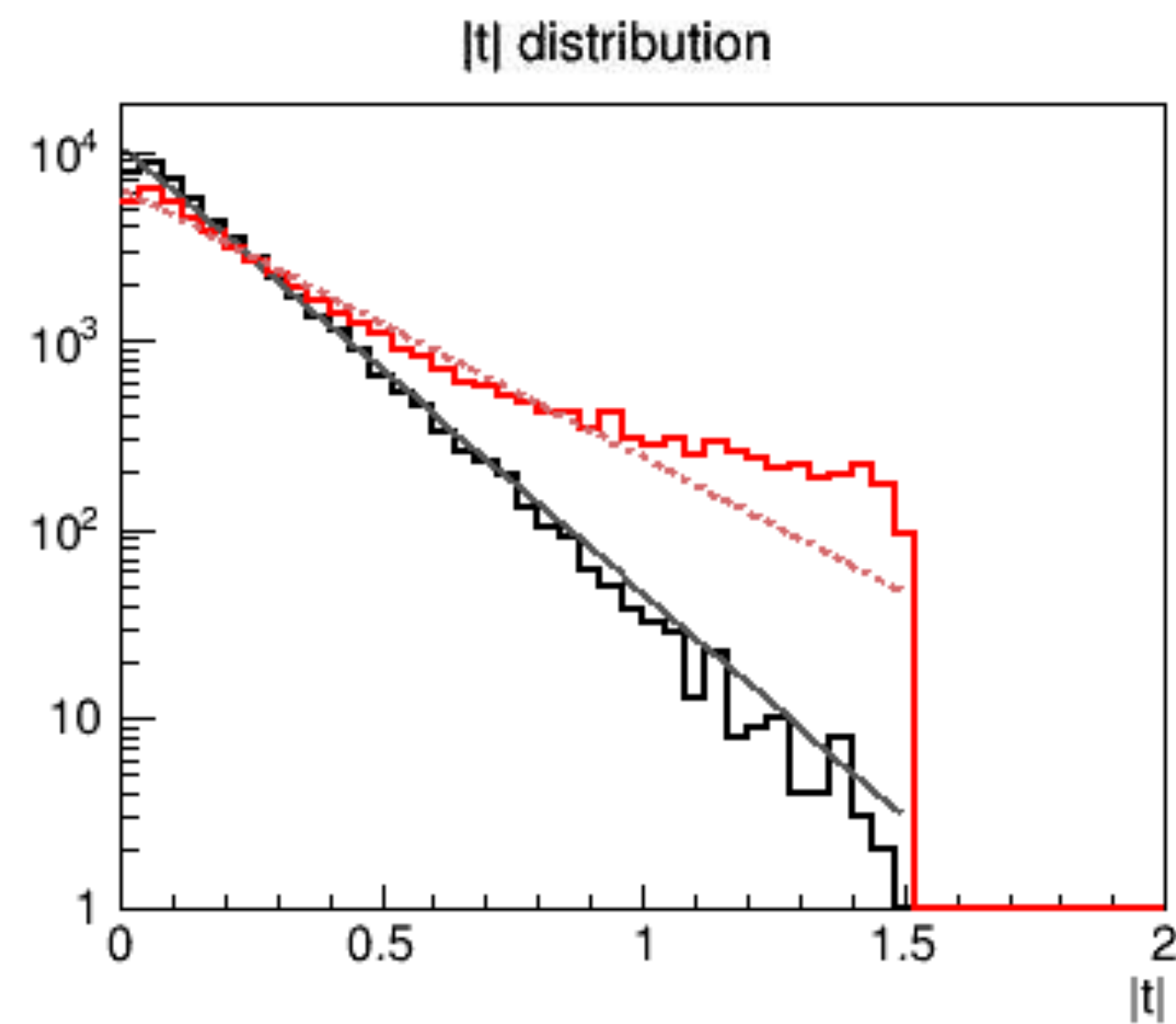


$|t|$

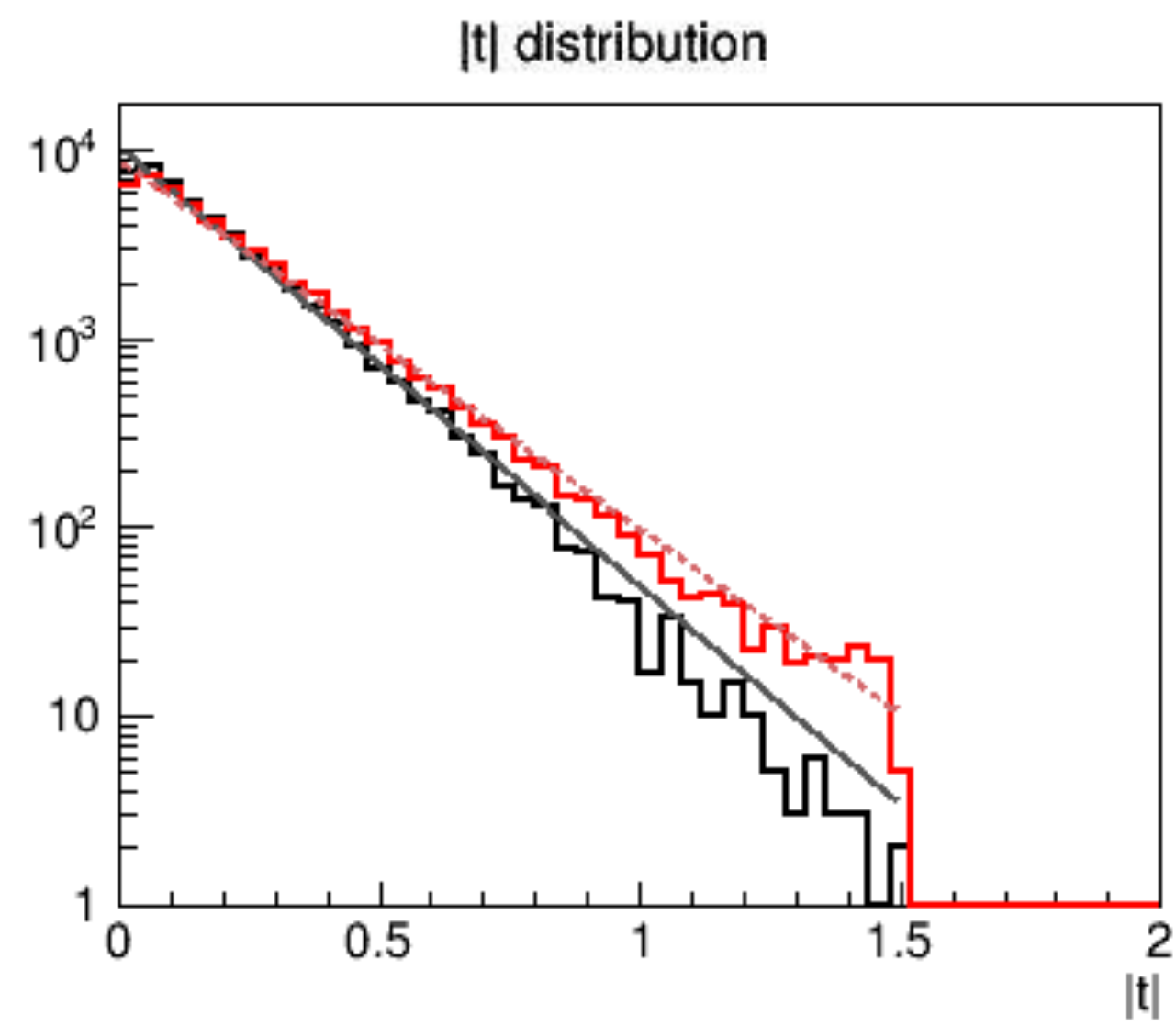
ep 5x100

ep 18x275

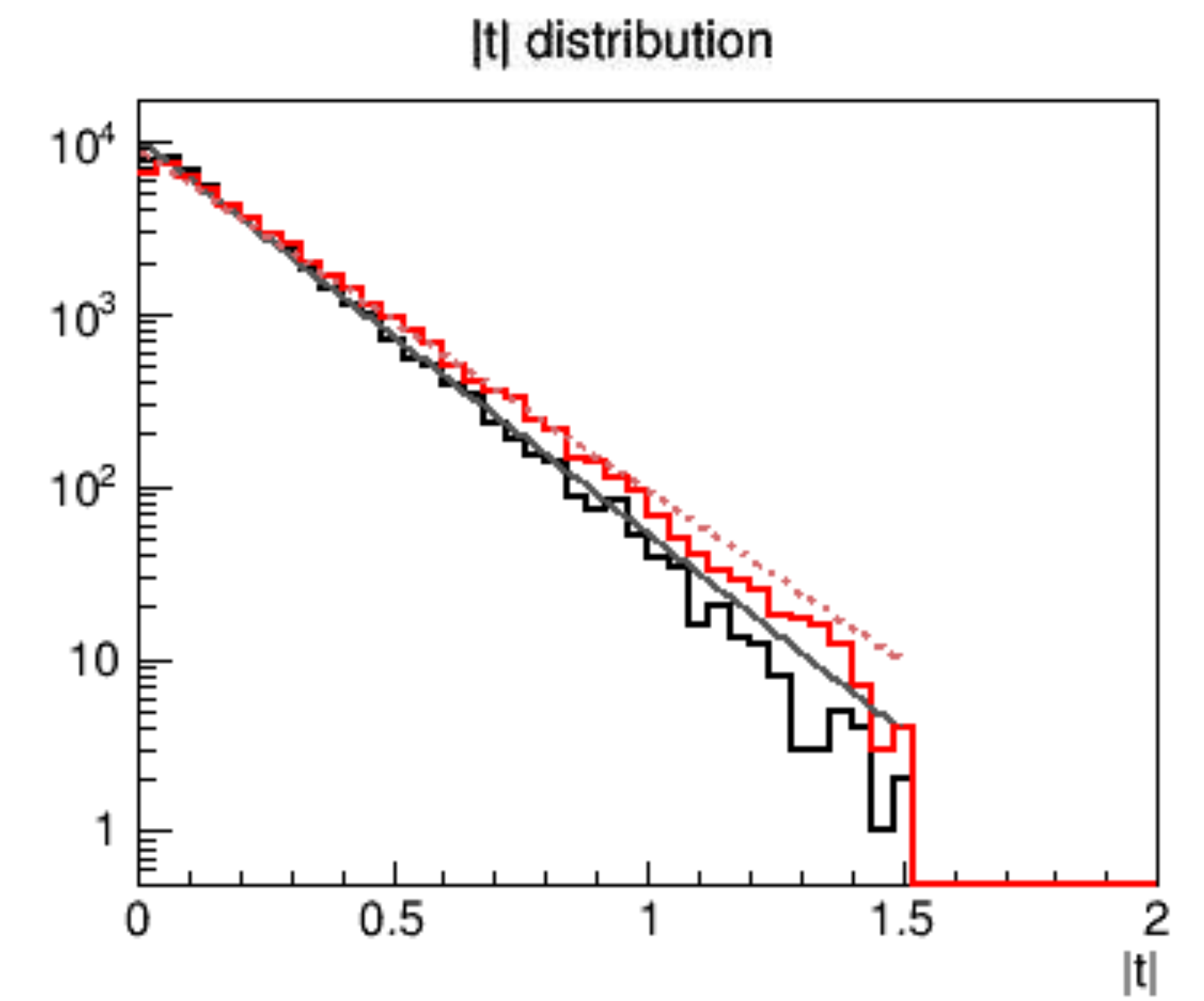
ep 27.6x820



Slope -5.45 +/- 0.02
Slope -3.28 +/- 0.02



Slope -5.36 +/- 0.02
Slope -4.51 +/- 0.02



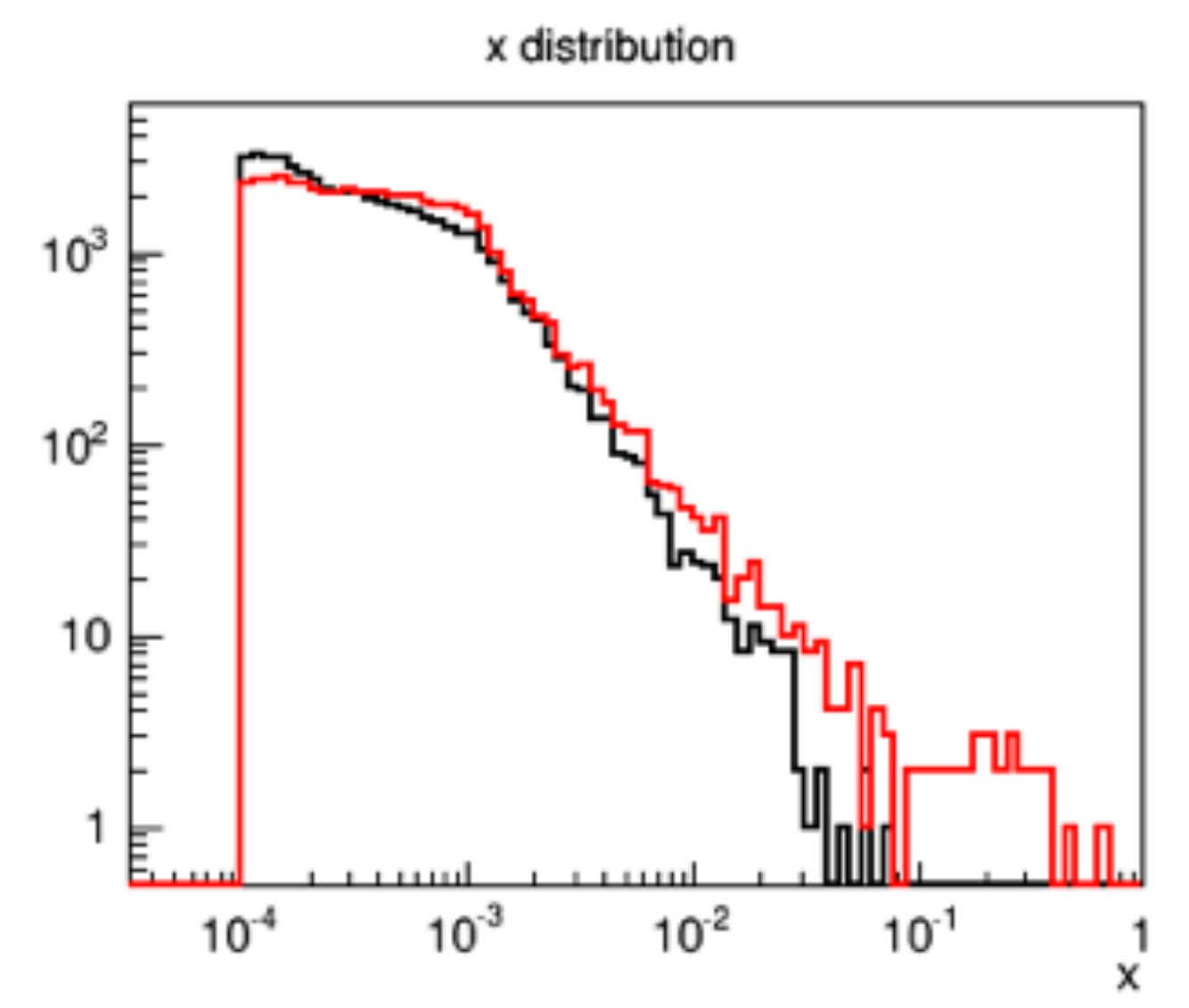
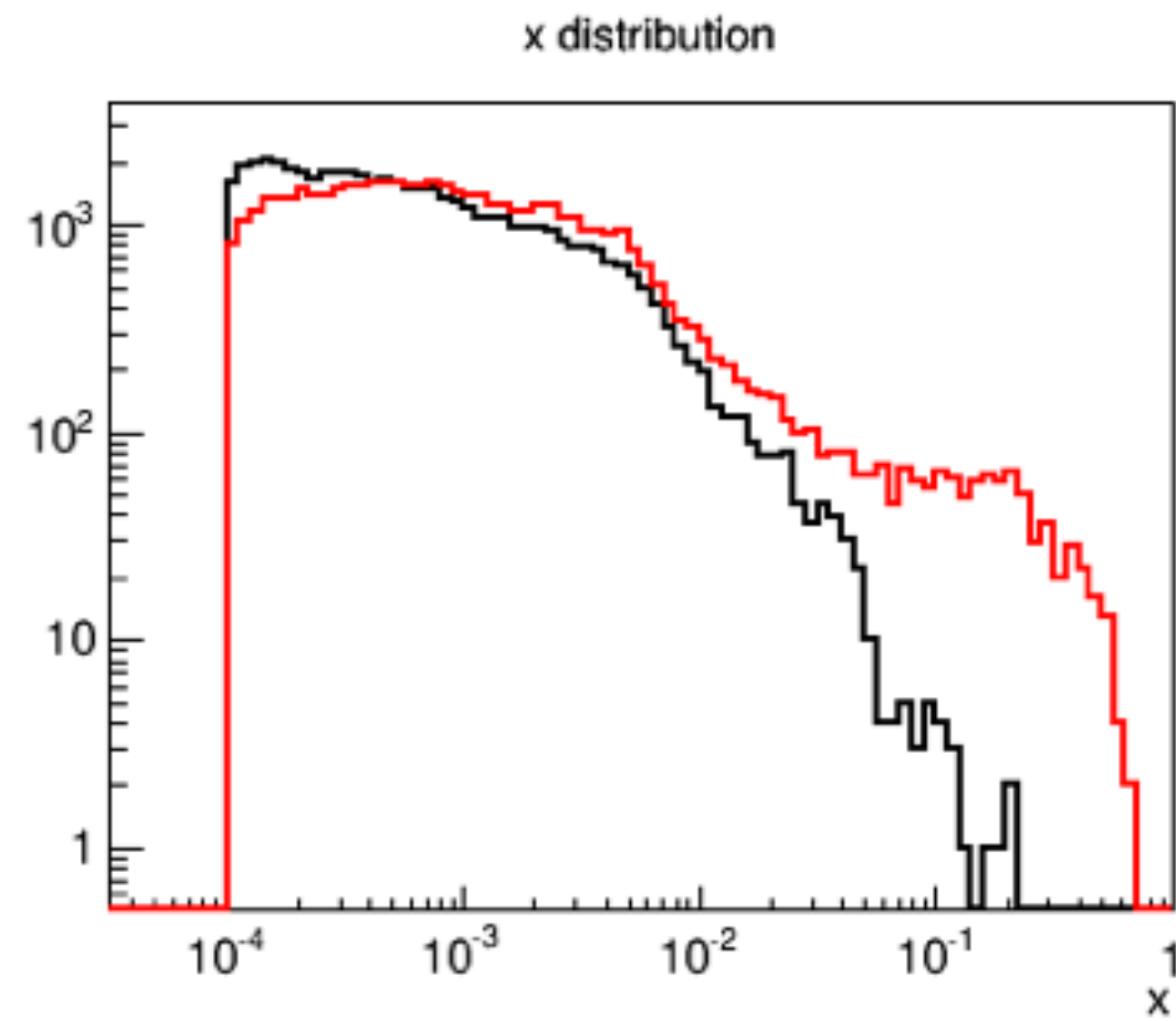
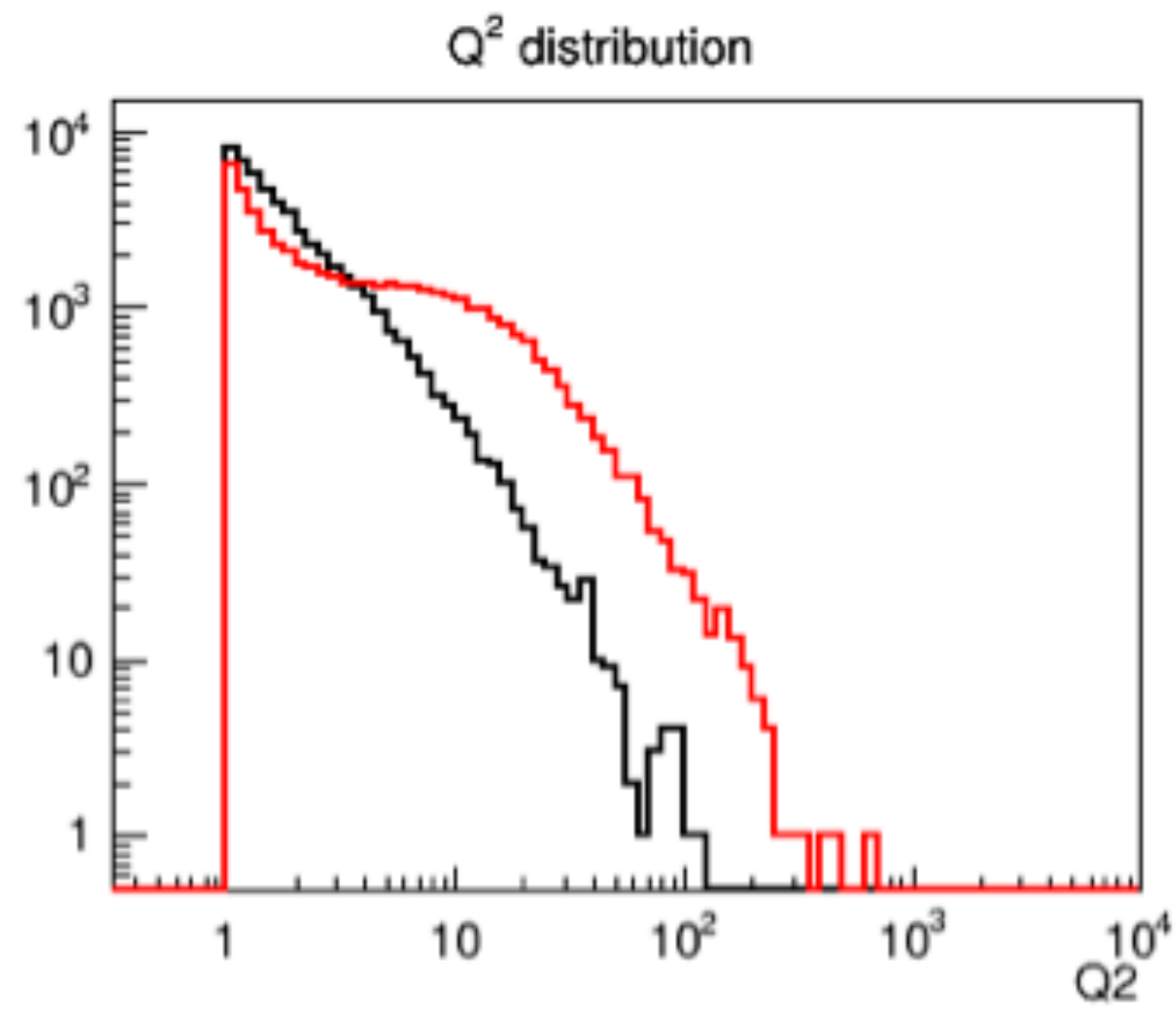
Slope -5.27 +/- 0.02
Slope -4.55 +/- 0.02

X

ep 5x100

ep 18x275

ep 27.6x820

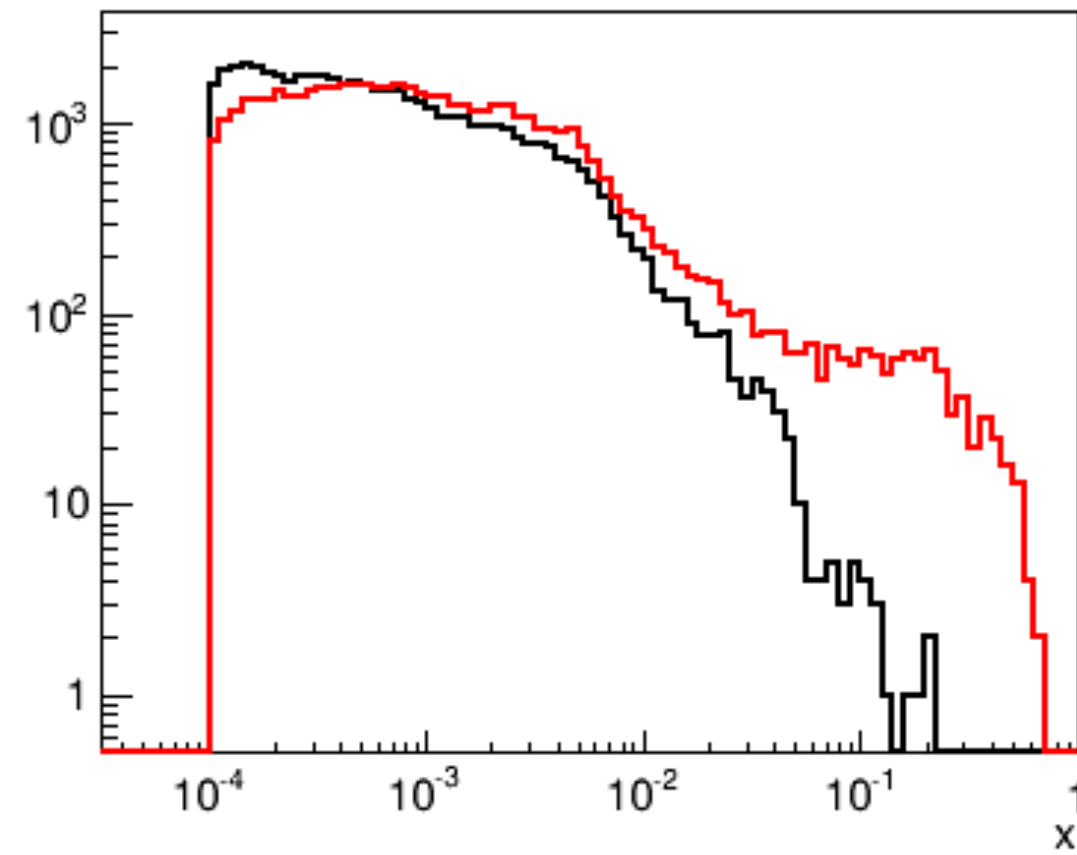


18x275 e- + p

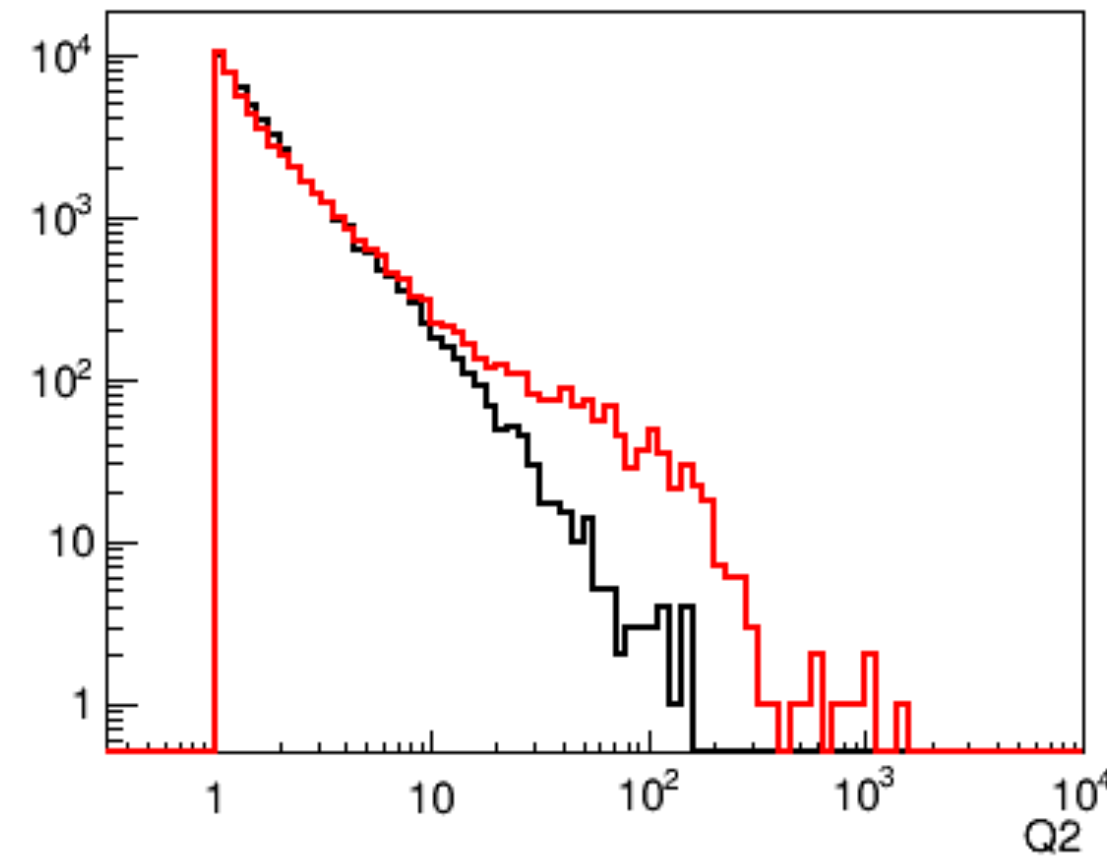
$Q^2 < 5 \text{ GeV}^2$



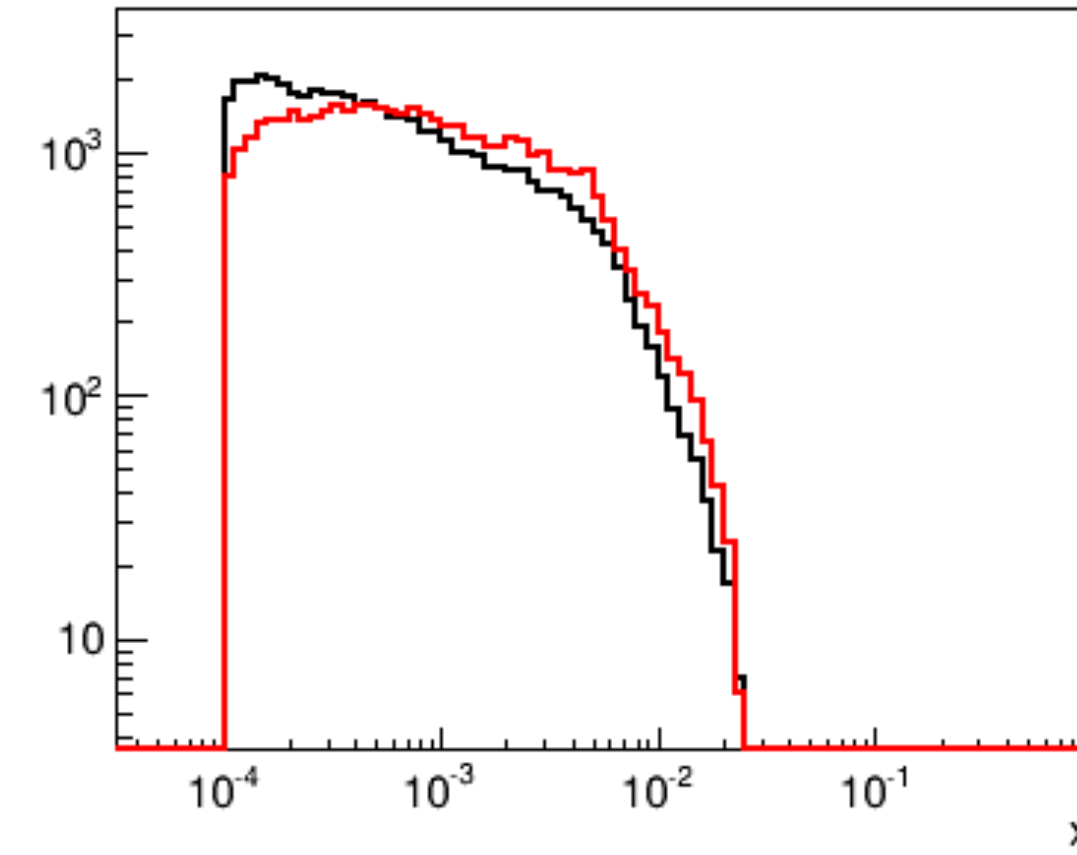
x distribution



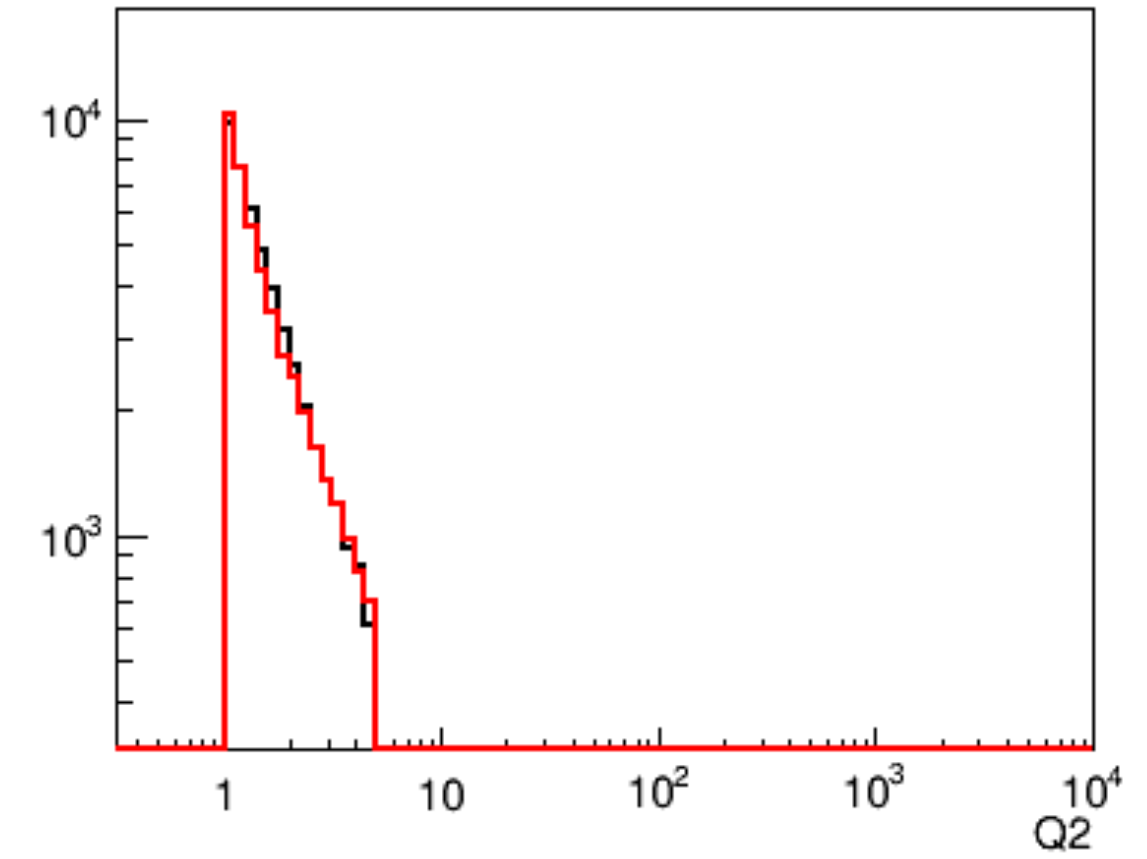
Q^2 distribution



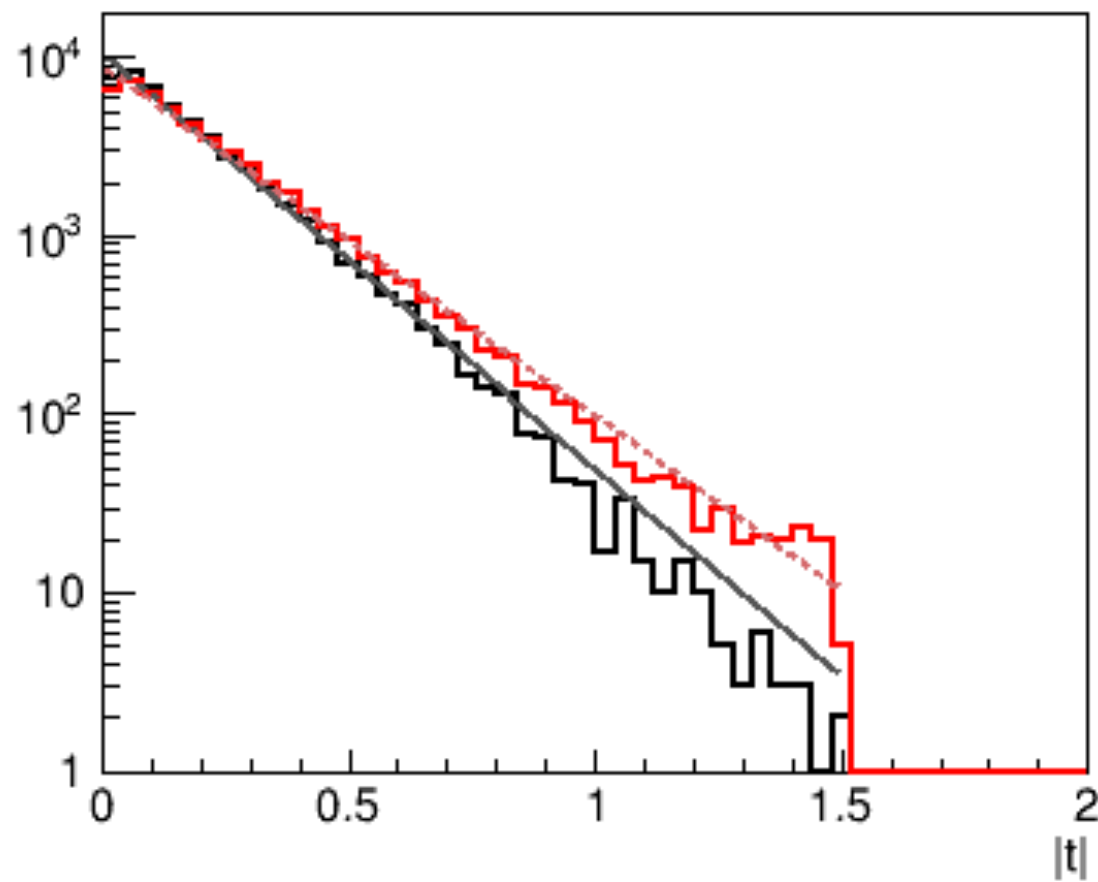
x distribution



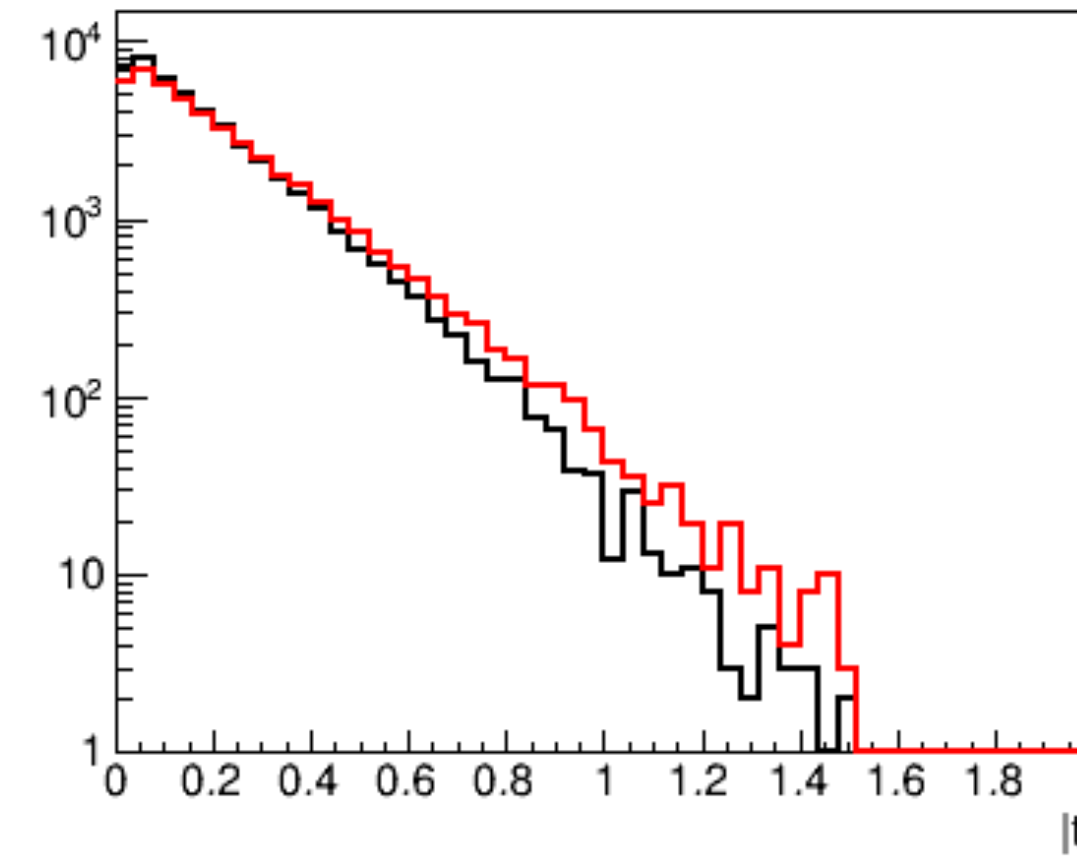
Q^2 distribution



$|t|$ distribution



$|t|$ distribution



Slope -5.36 ± 0.02

Slope -4.51 ± 0.02

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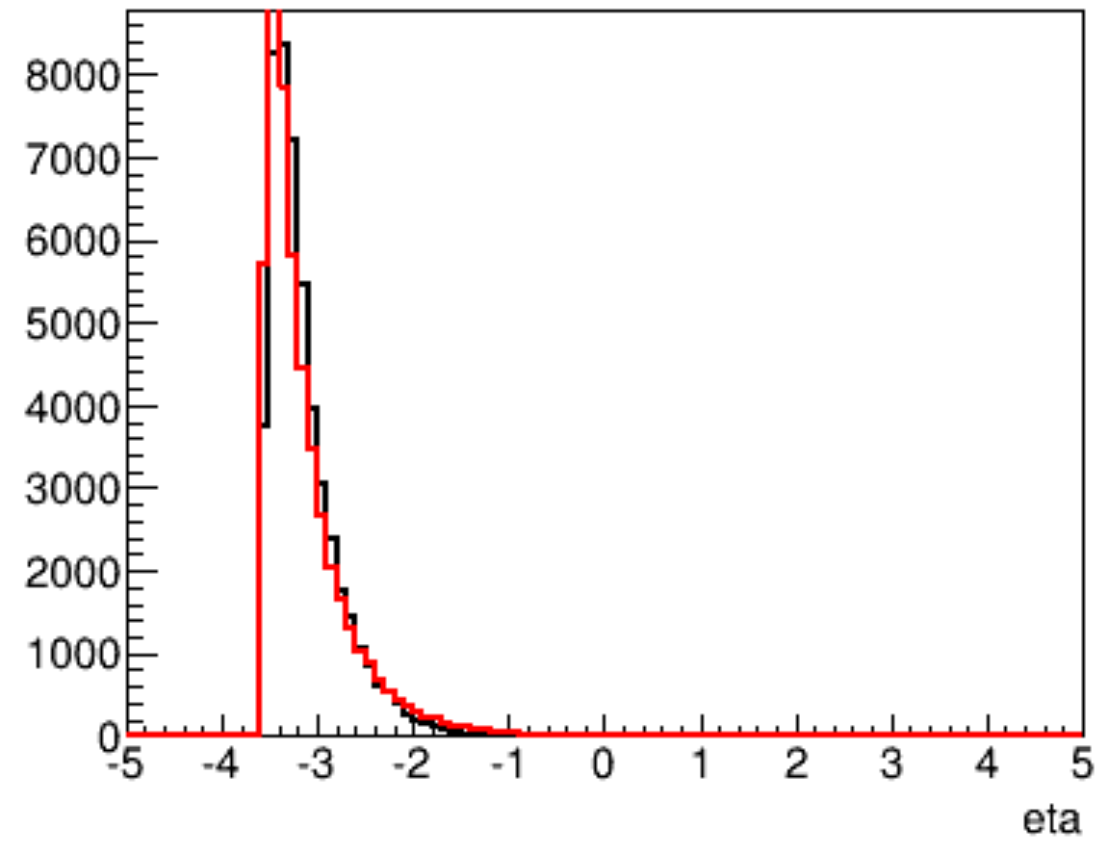
Slope -5.36 ± 0.02

Slope -4.65 ± 0.02

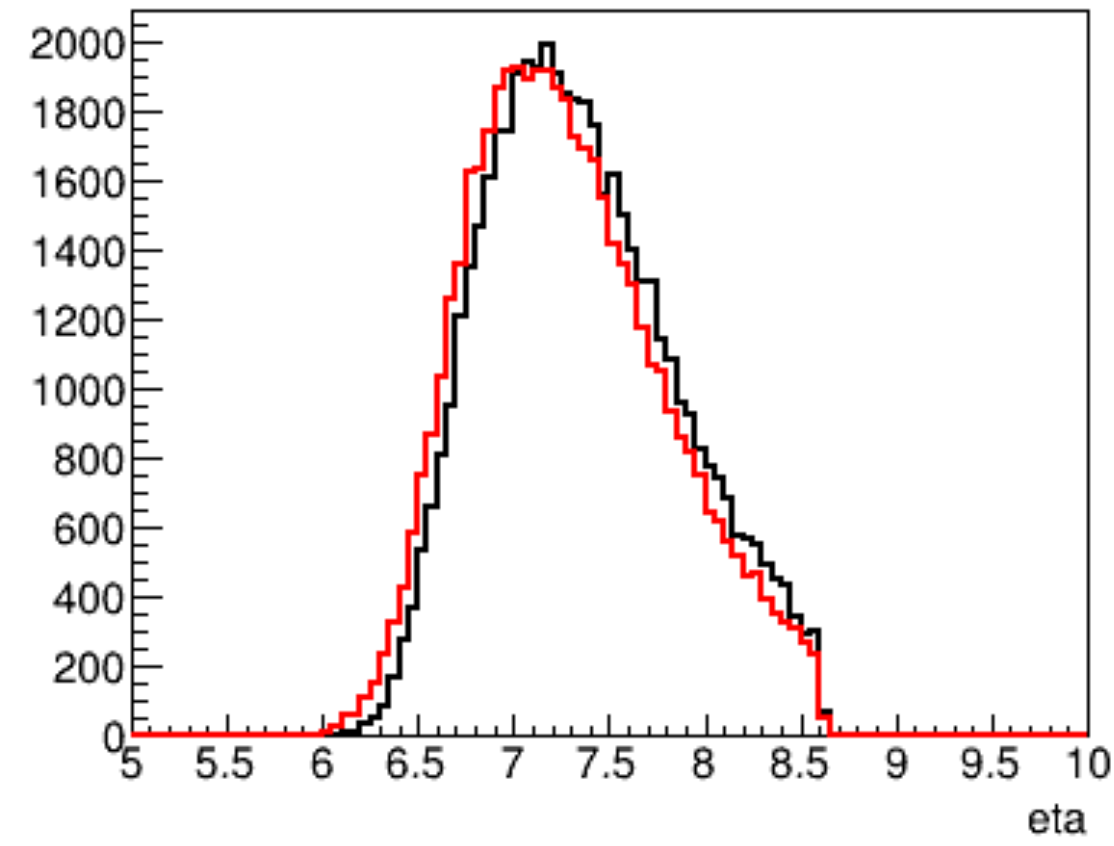
$Q^2 < 5 \text{ GeV}^2$



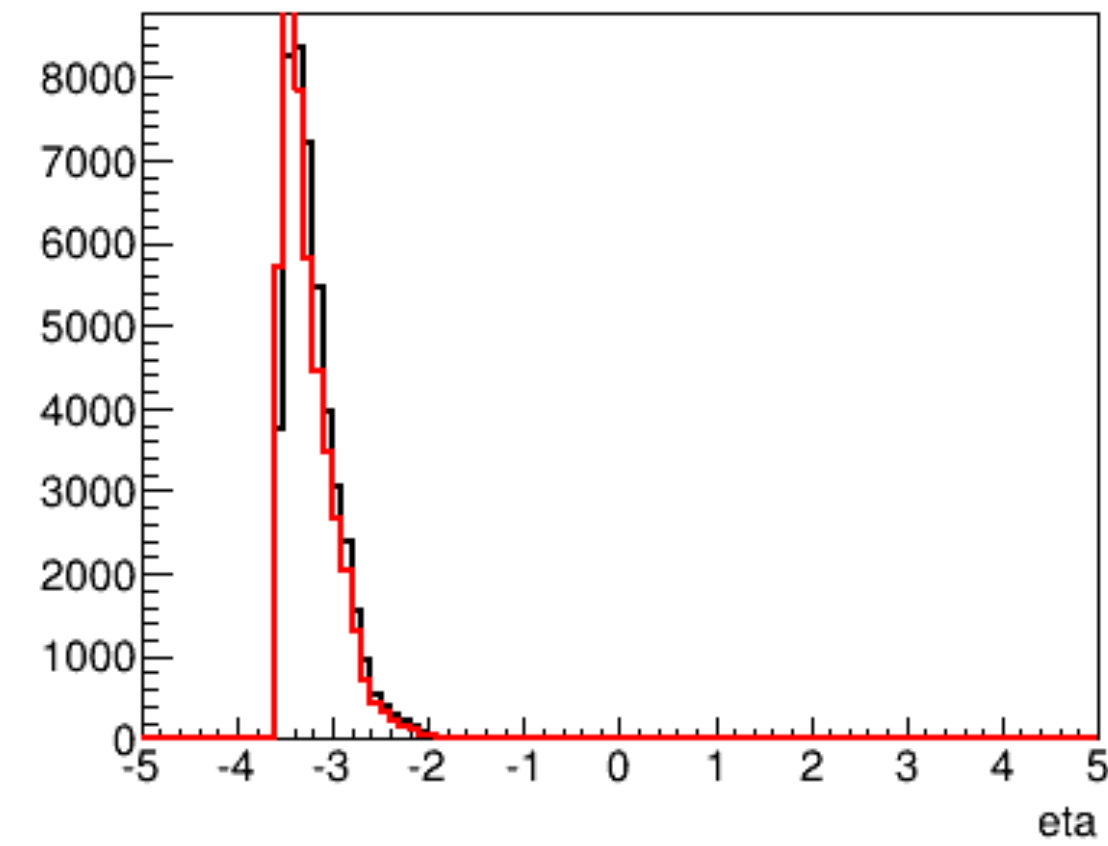
Electron Eta



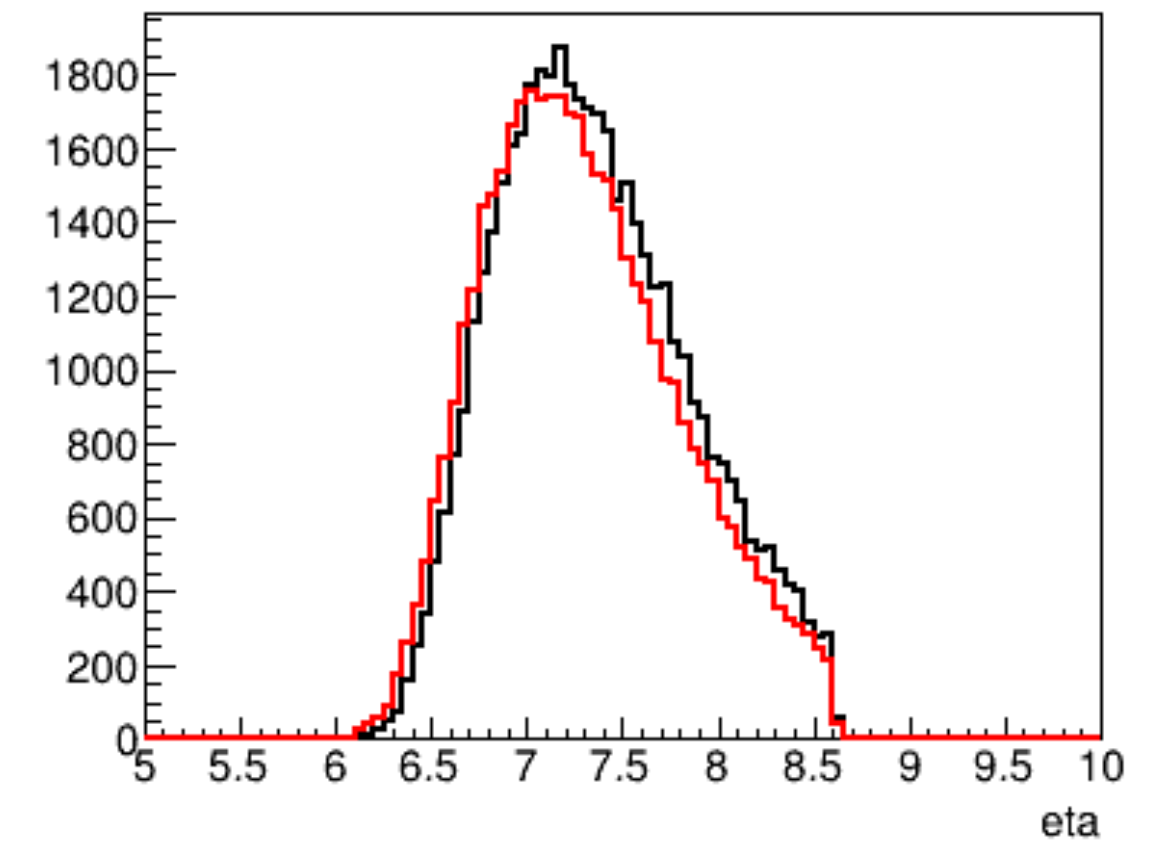
Proton Eta



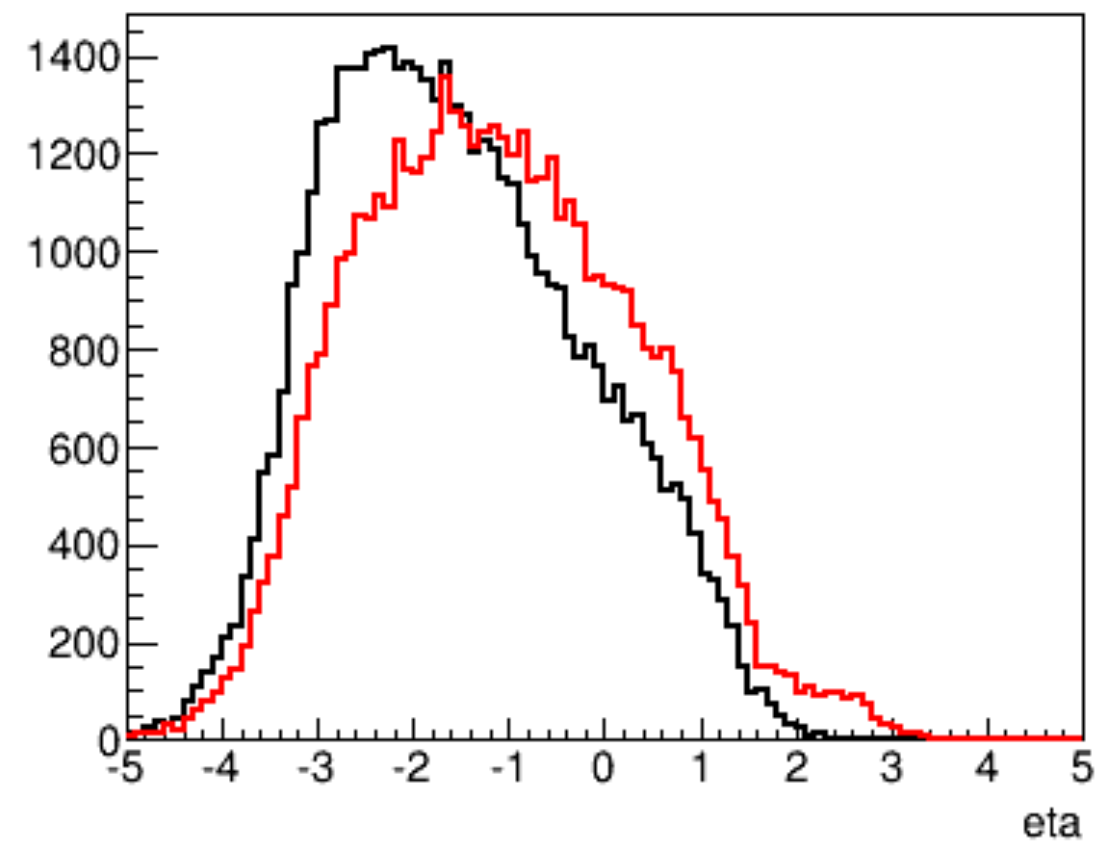
Electron Eta



Proton Eta

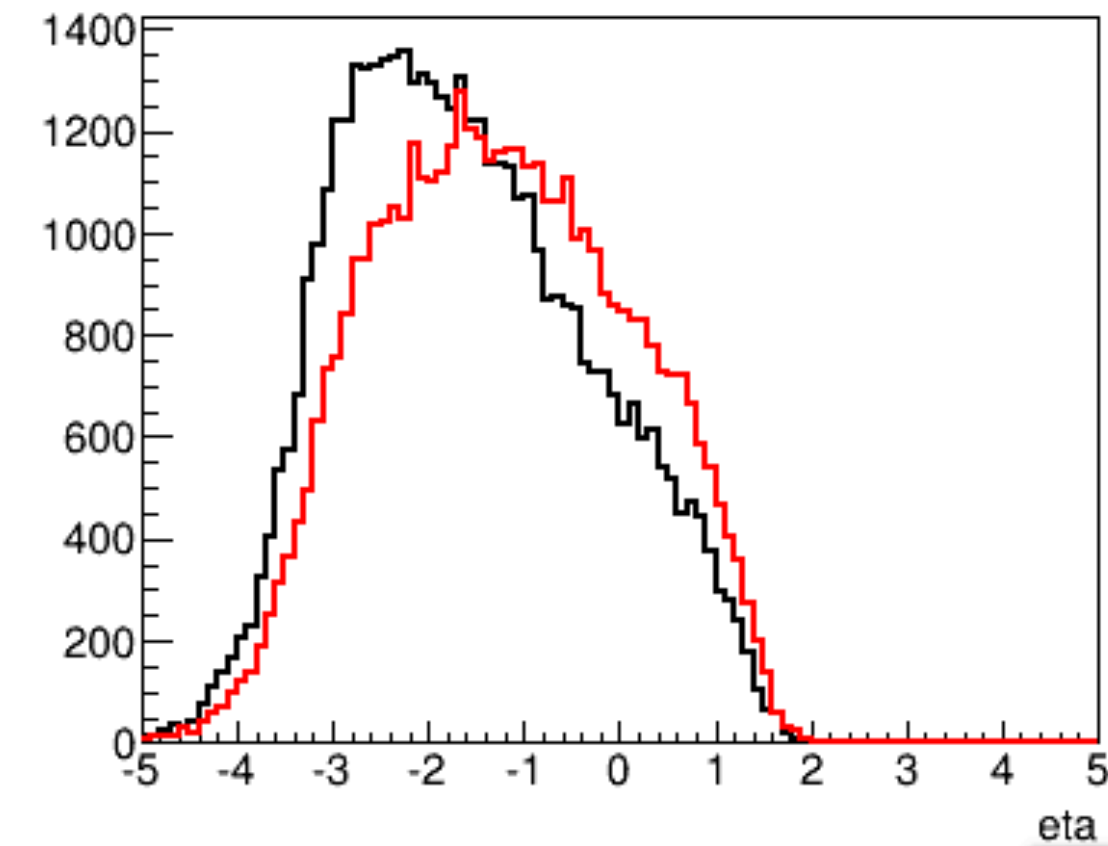


Photon Eta



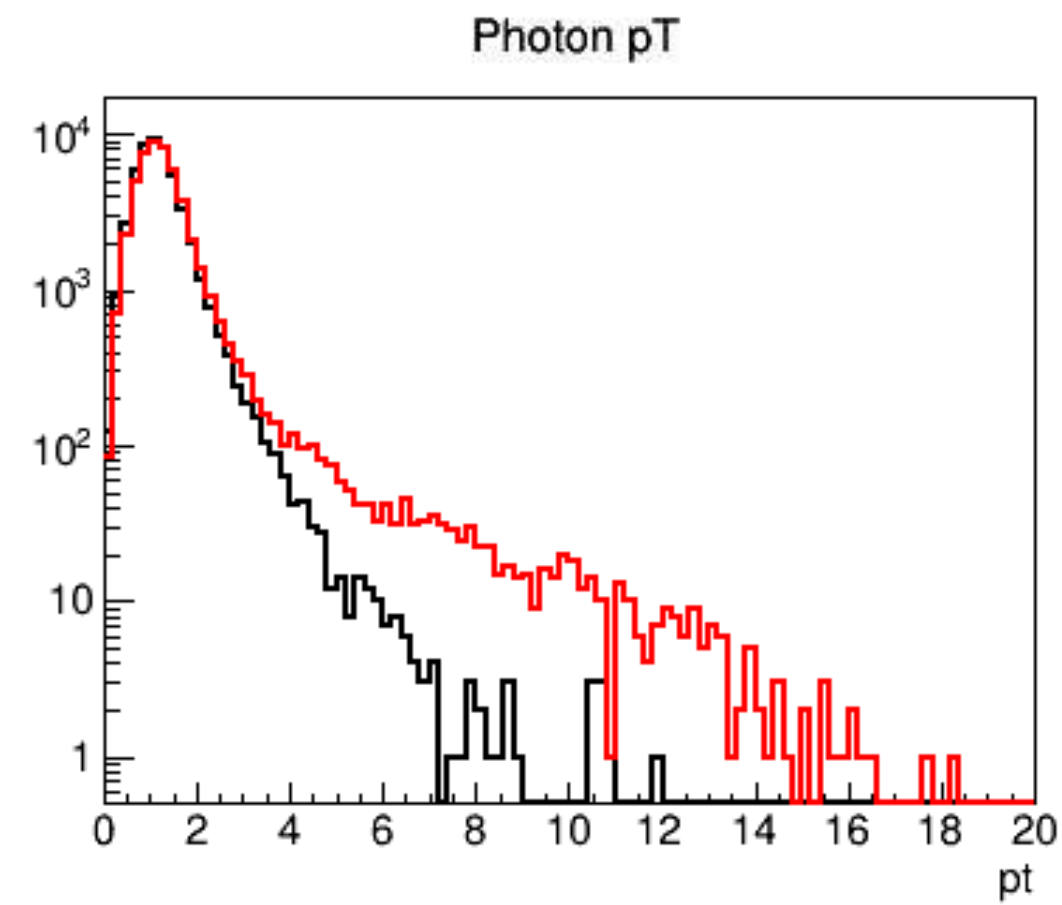
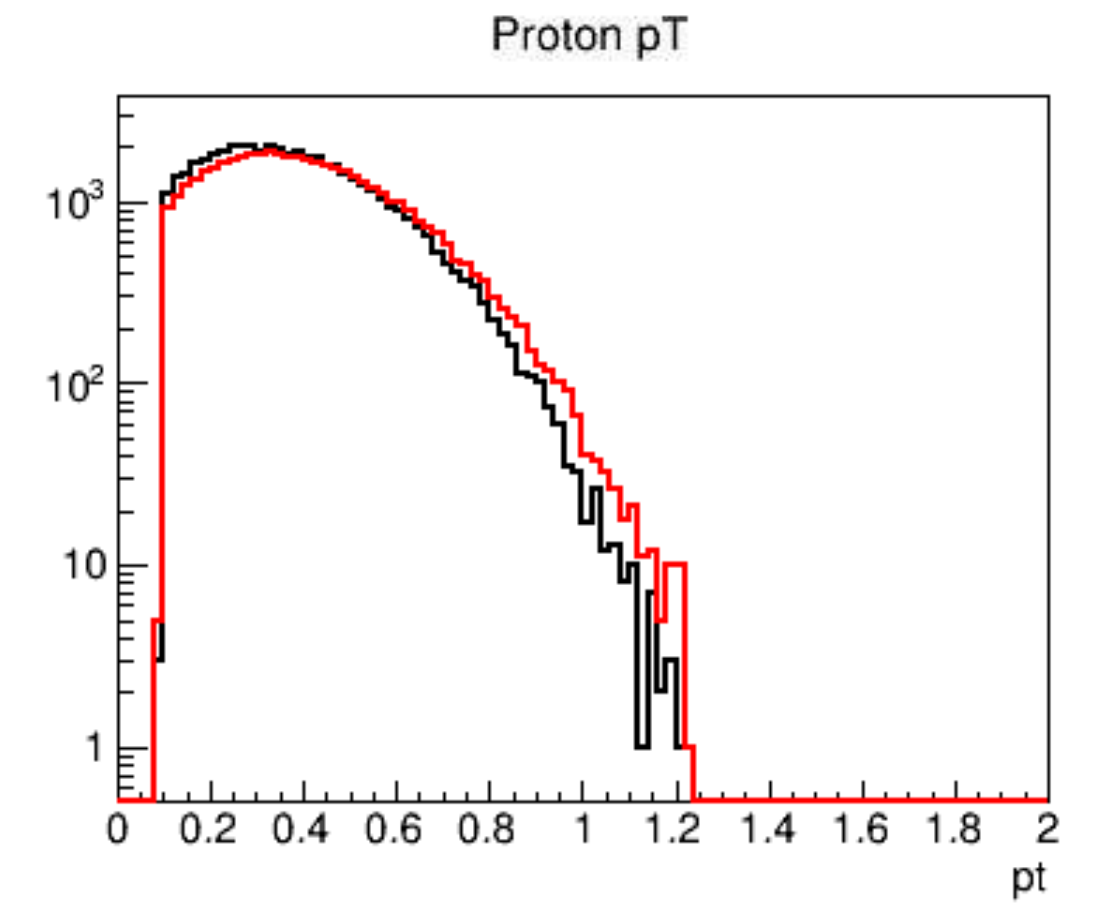
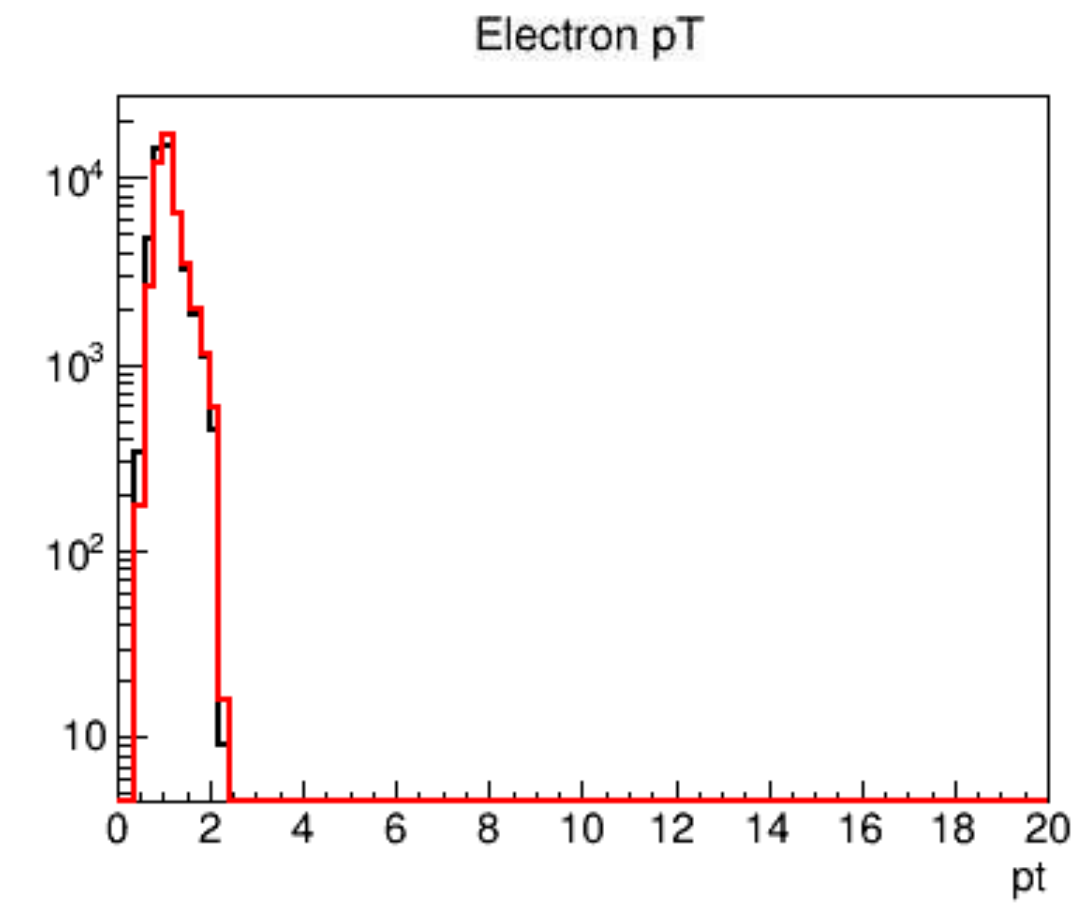
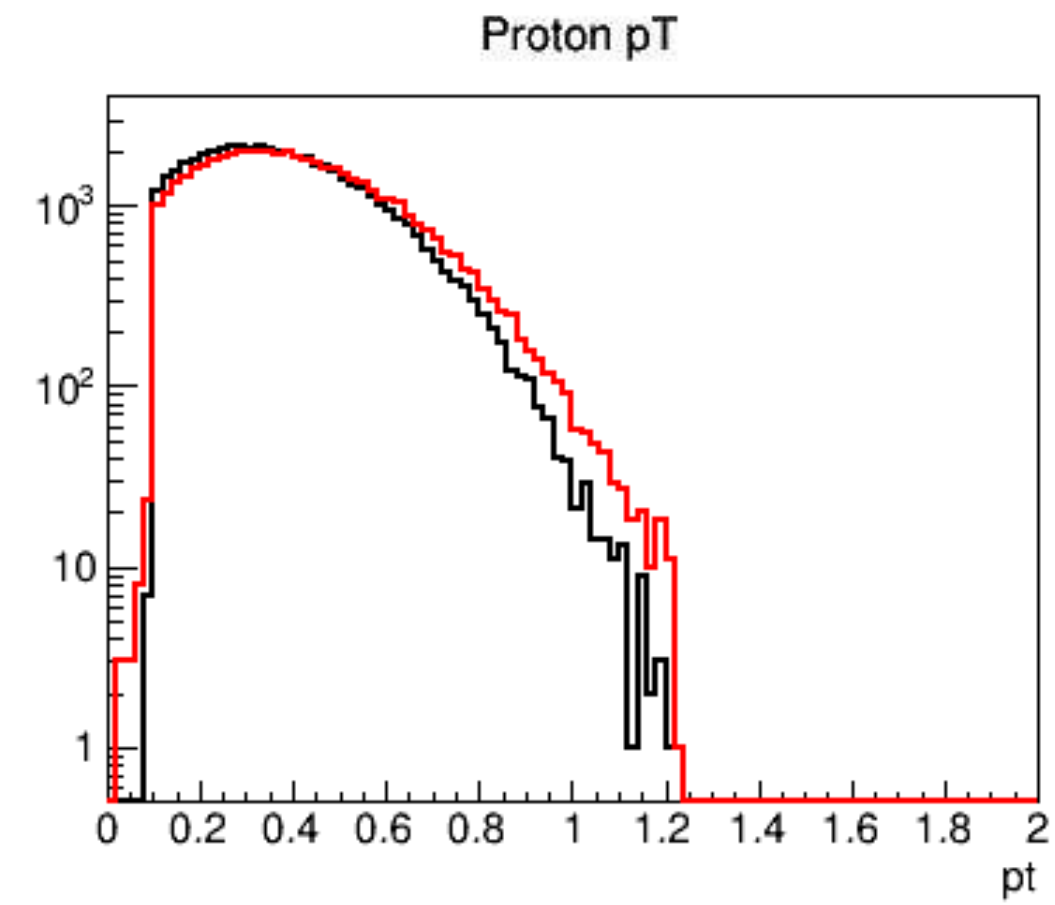
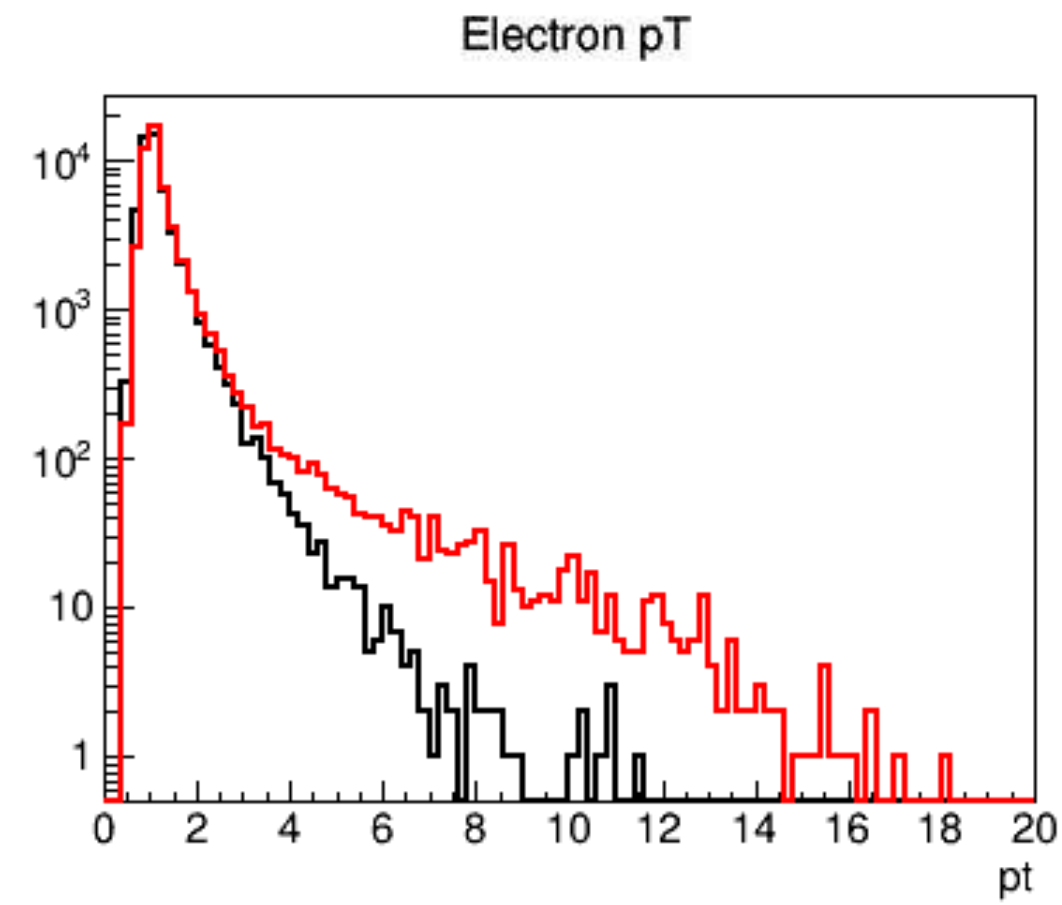
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Photon Eta

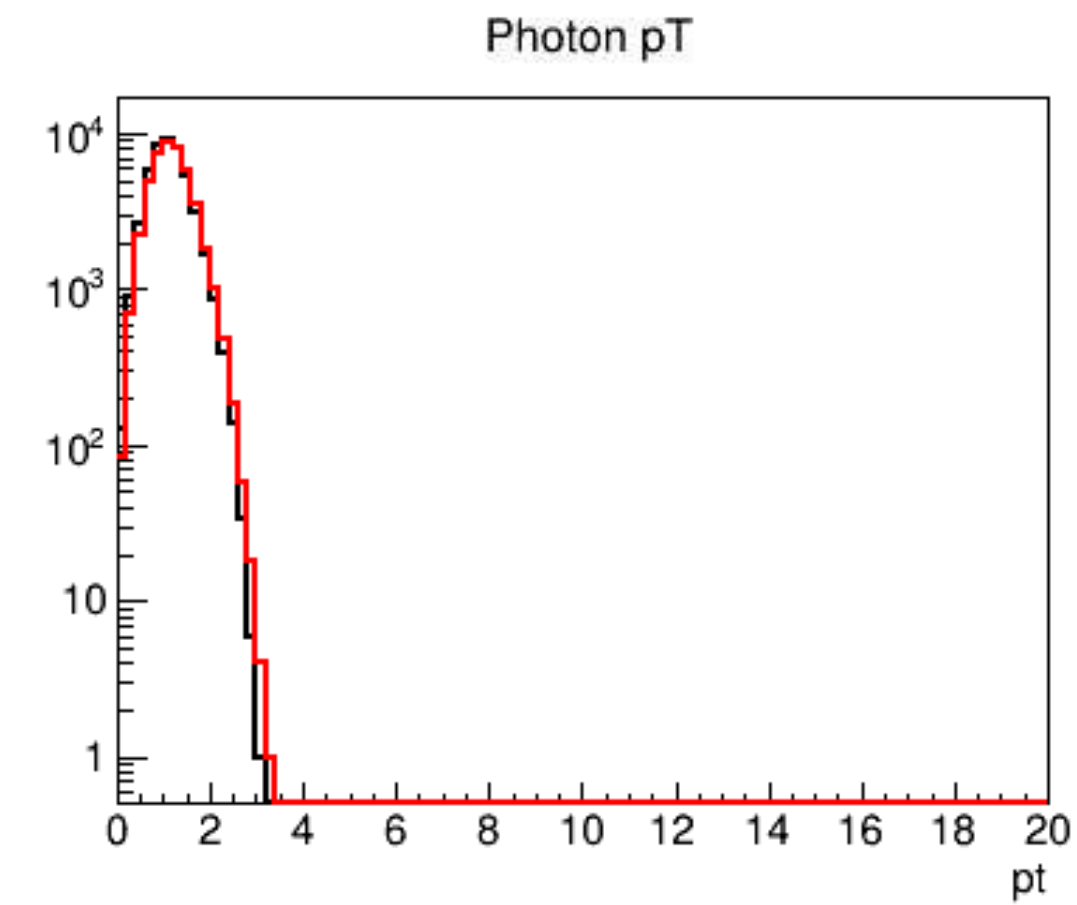


MILOU CFF
PARTONS CFF

$Q^2 < 5 \text{ GeV}^2$



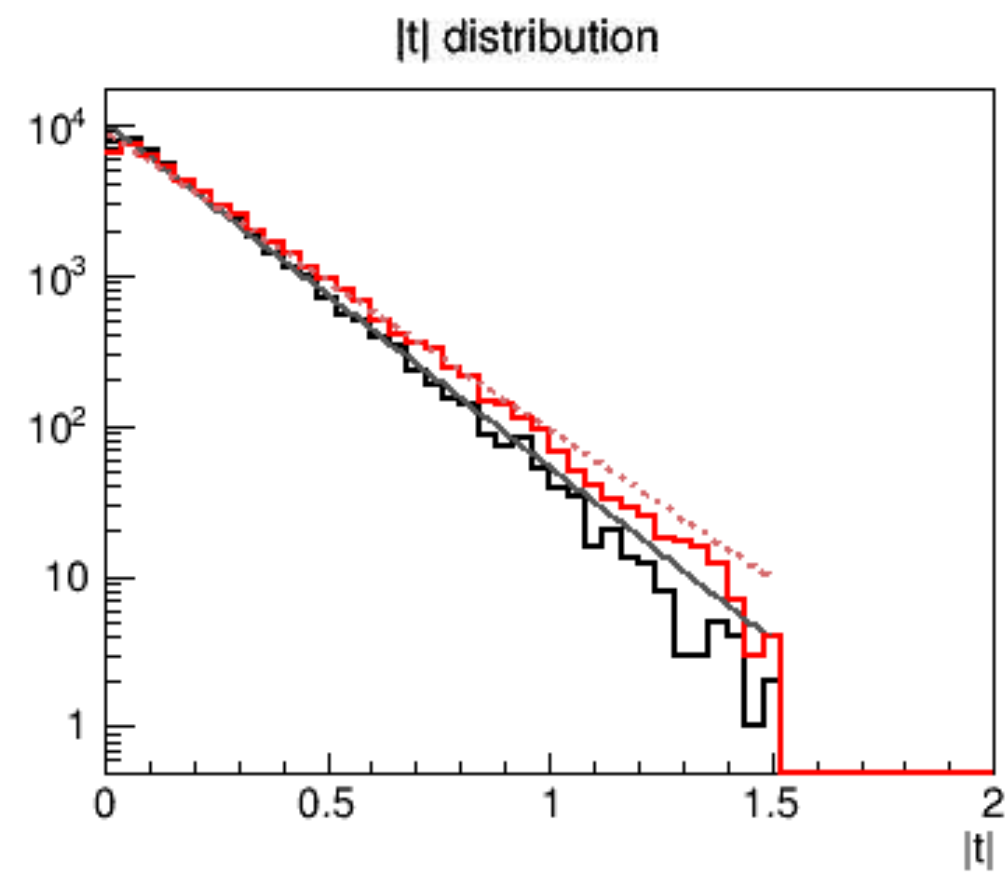
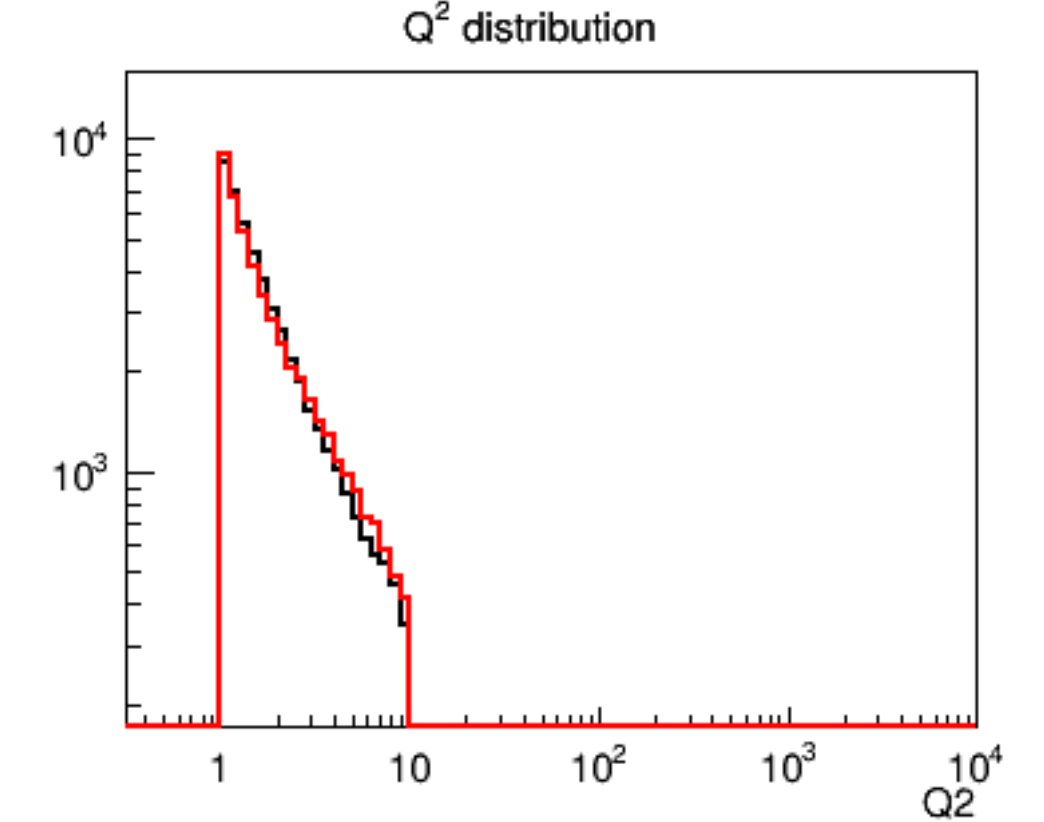
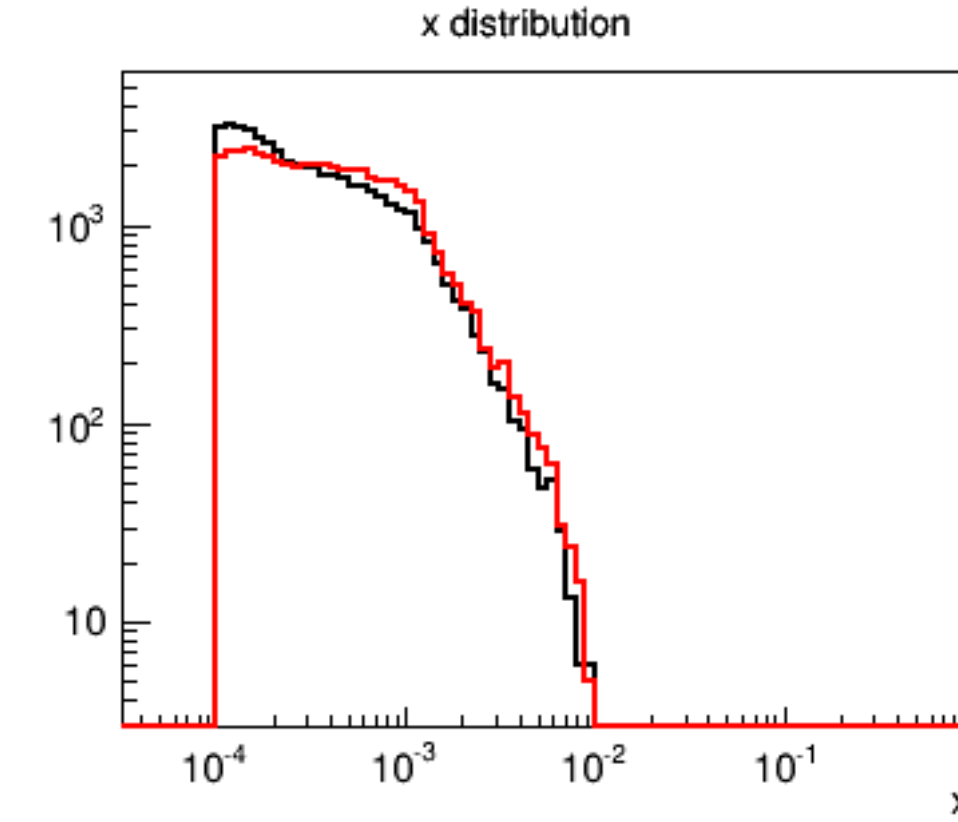
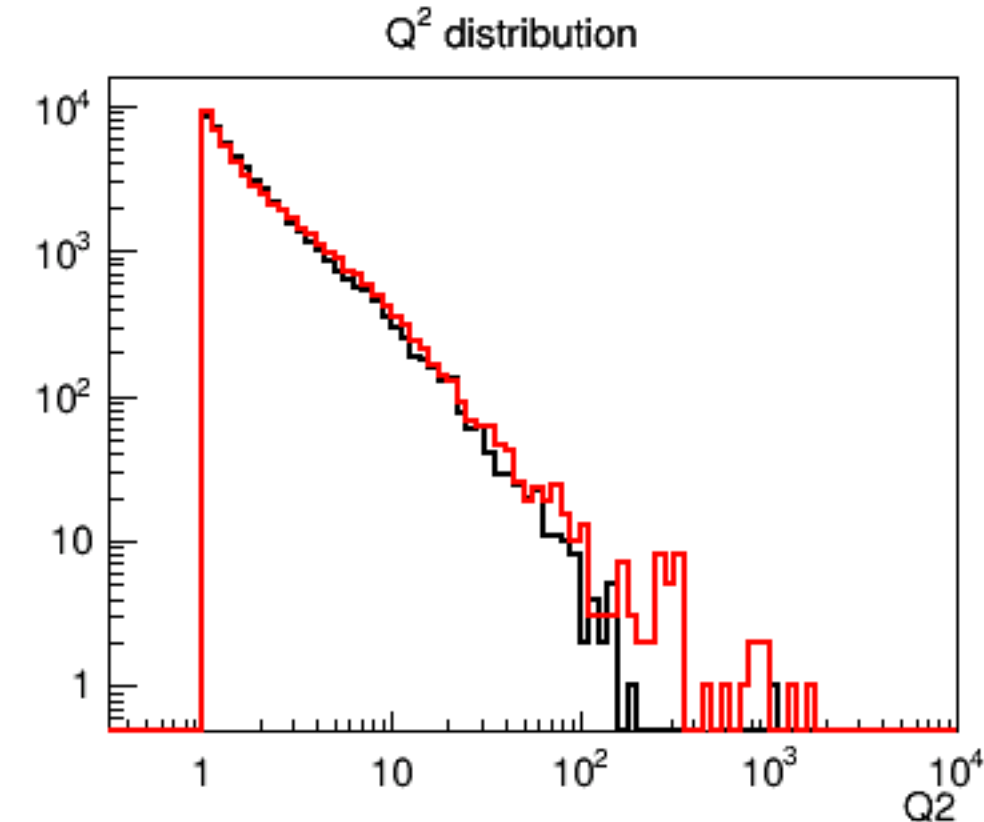
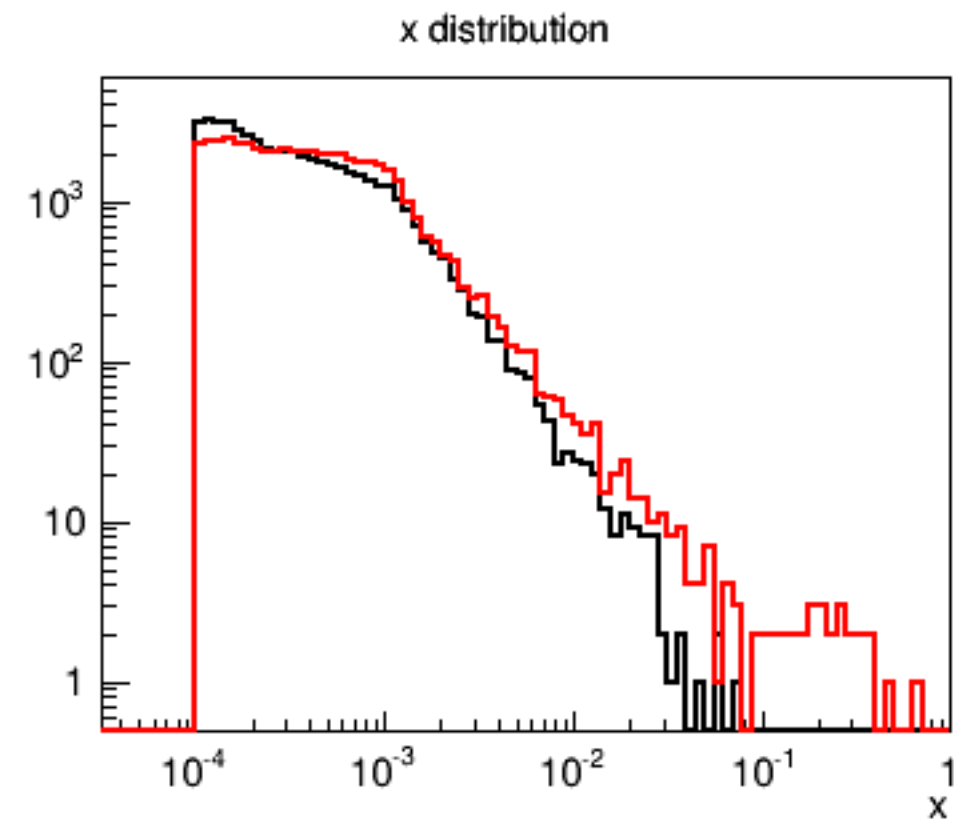
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PARTONS CFF



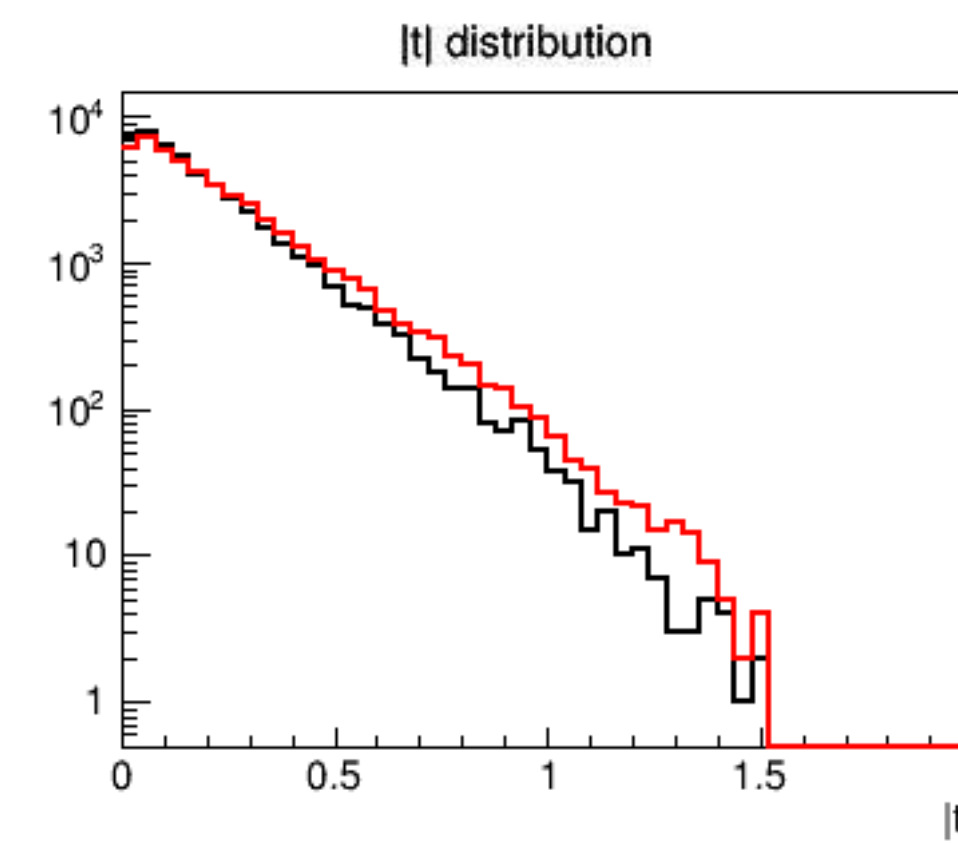
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27.6x820 e- + p

$Q^2 < 5 \text{ GeV}^2$



MILOU CFF
PARTONS CFF



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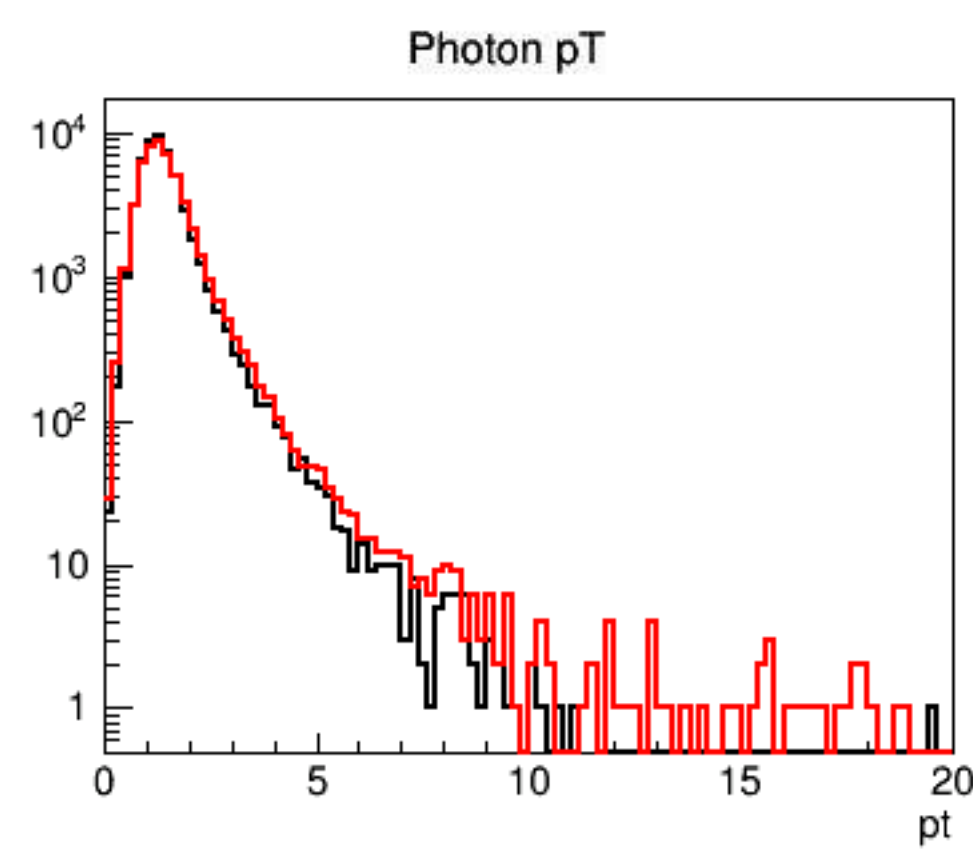
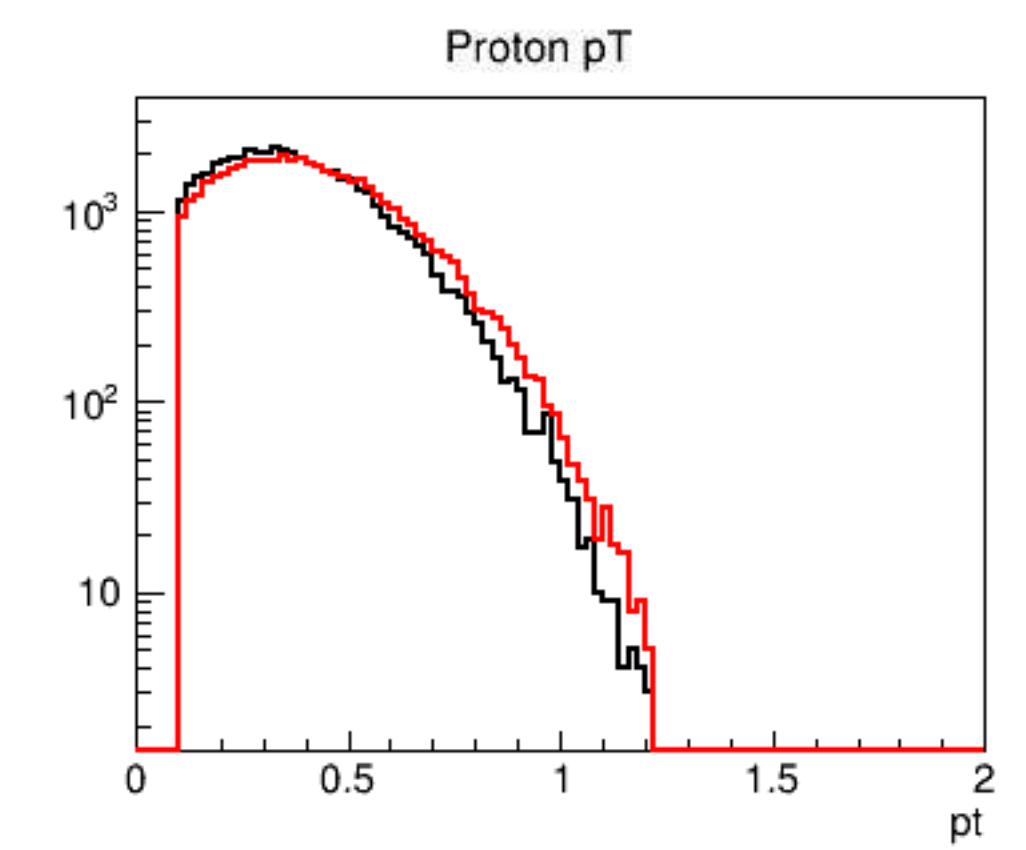
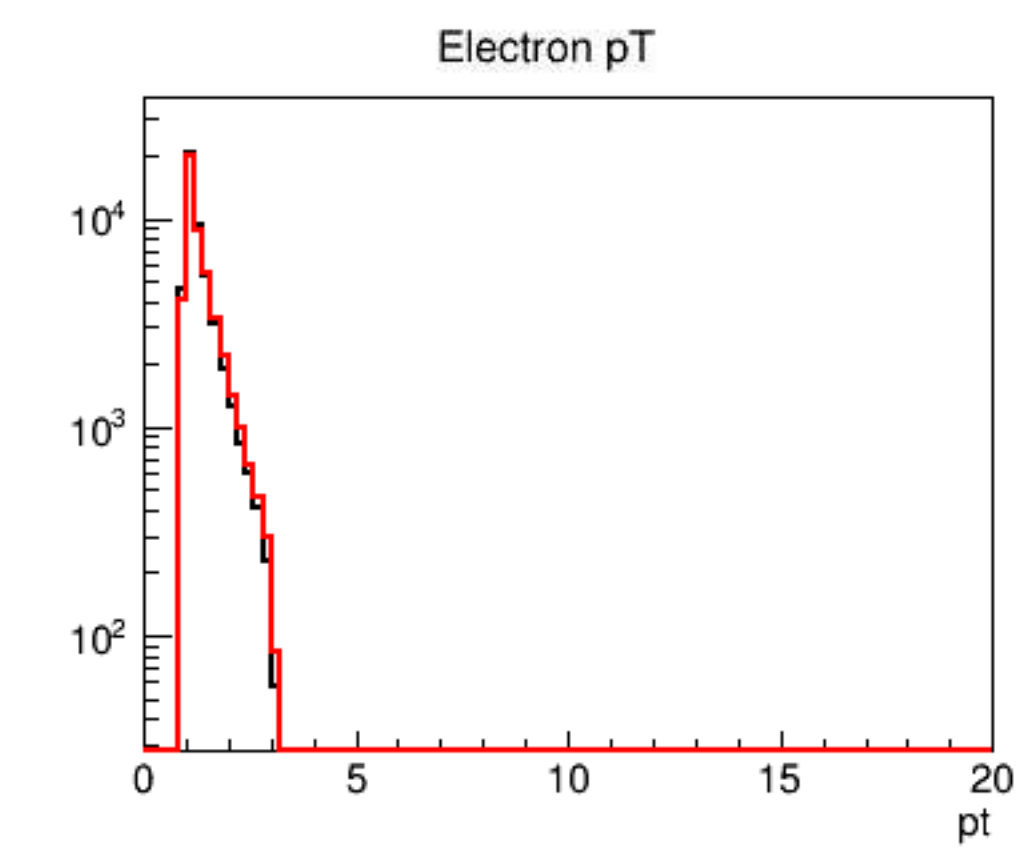
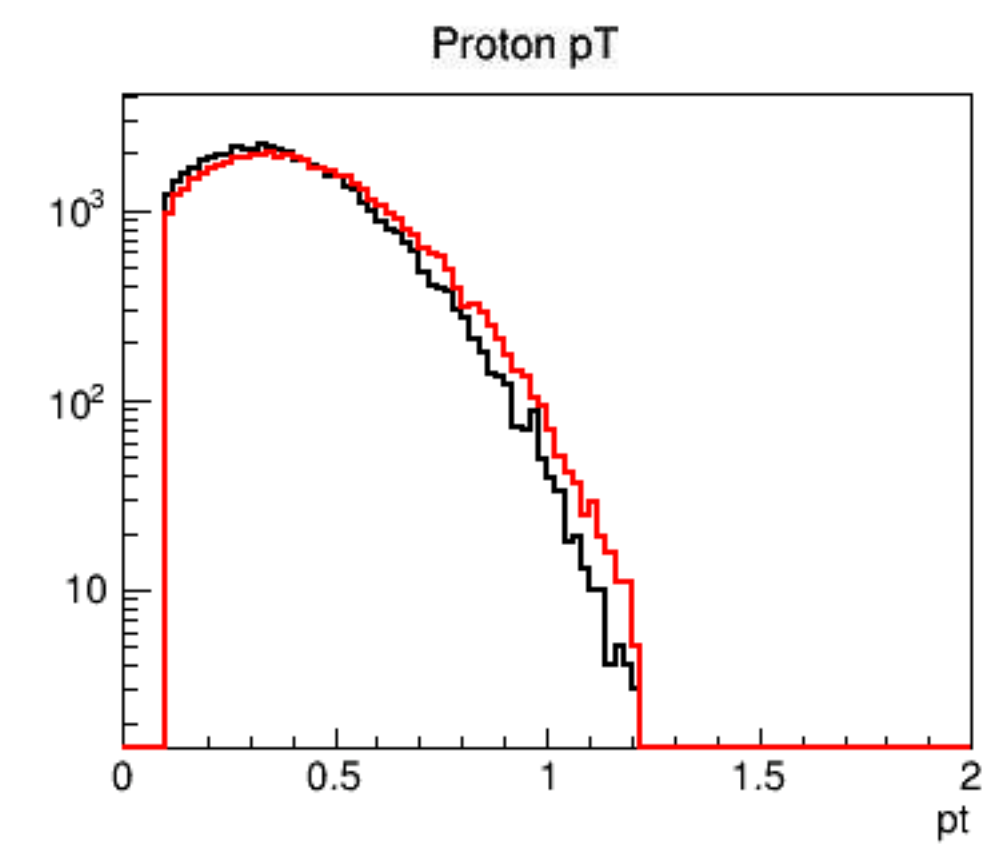
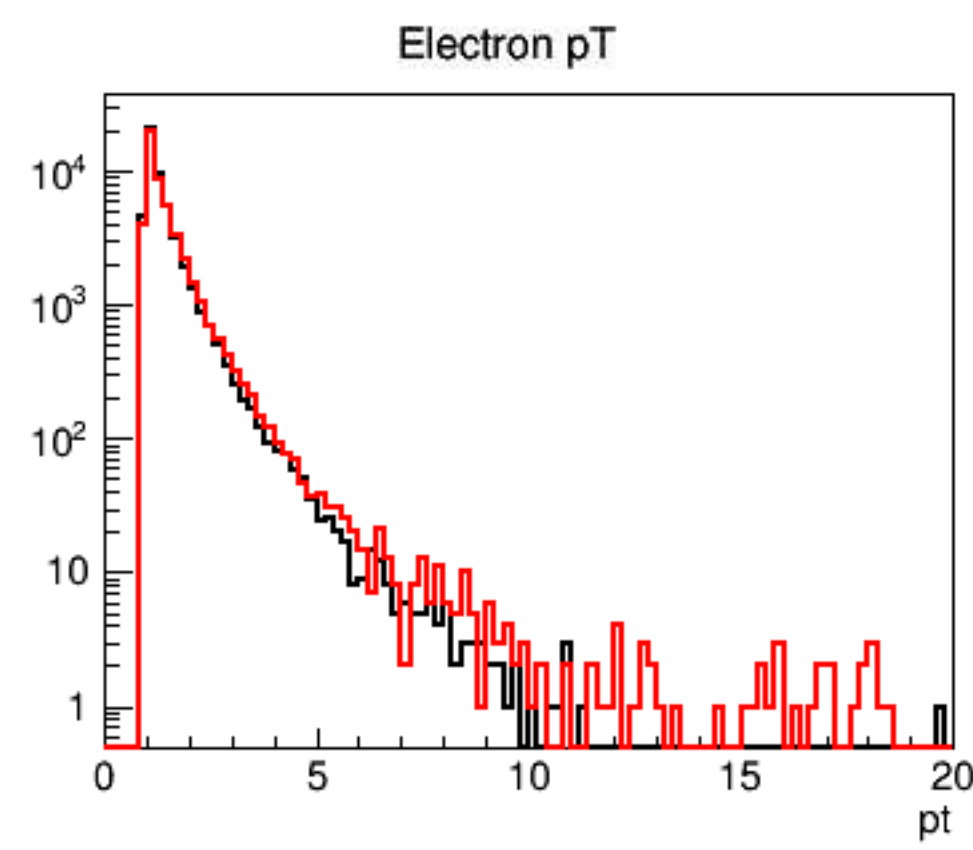
Slope -5.27 ± 0.02

Slope -4.55 ± 0.02

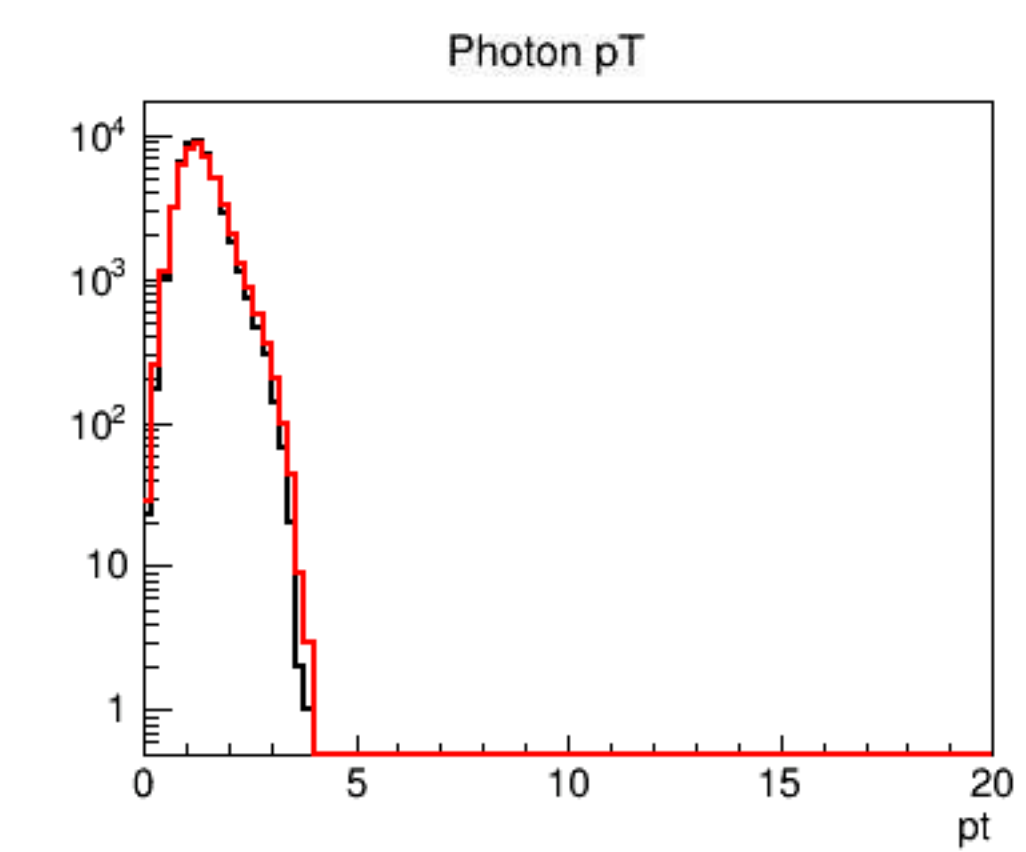
Slope -5.27 ± 0.02

Slope -4.58 ± 0.02

$Q^2 < 5 \text{ GeV}^2$

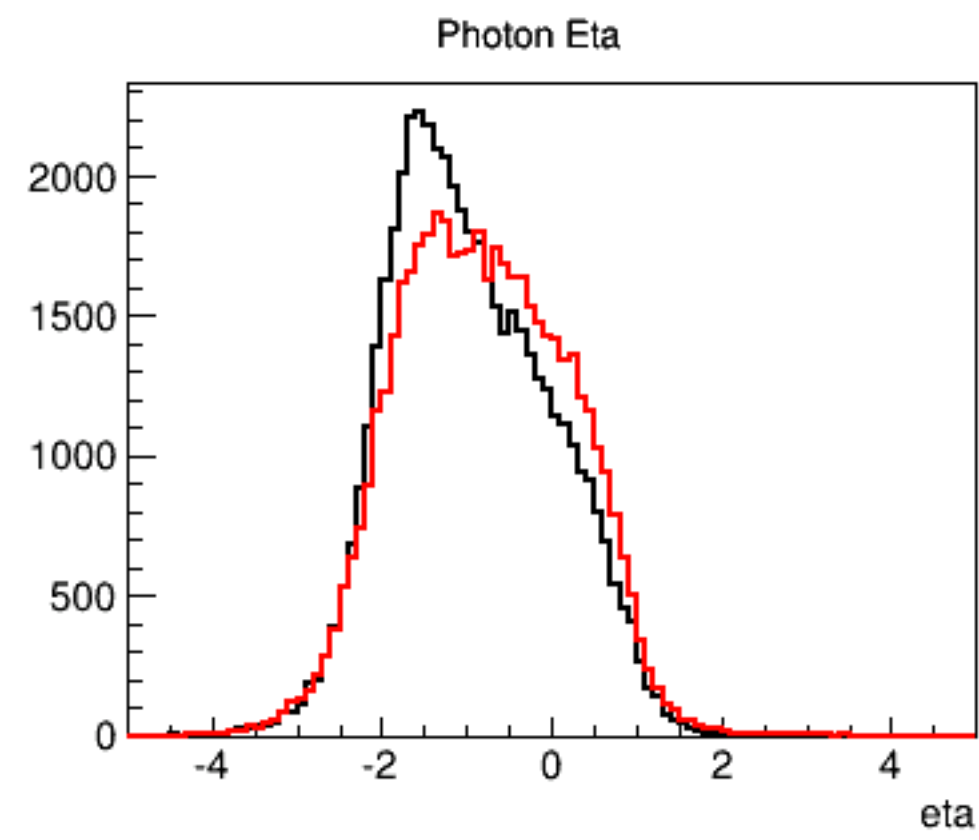
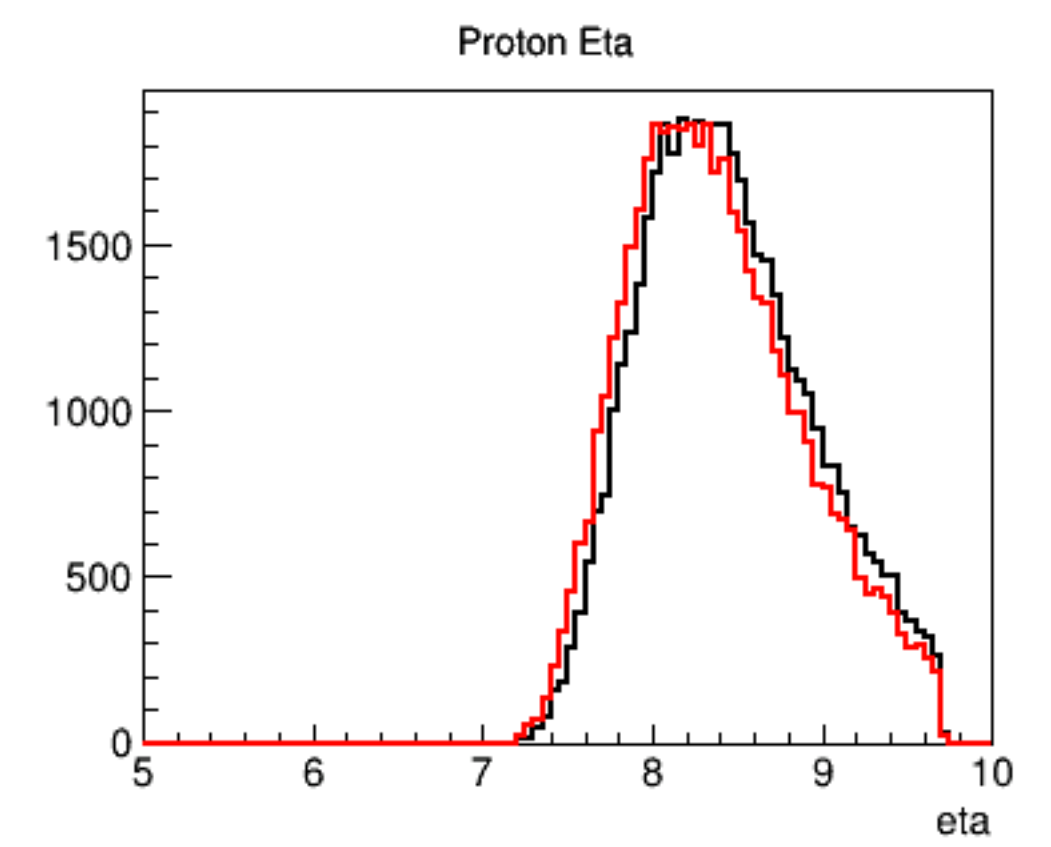
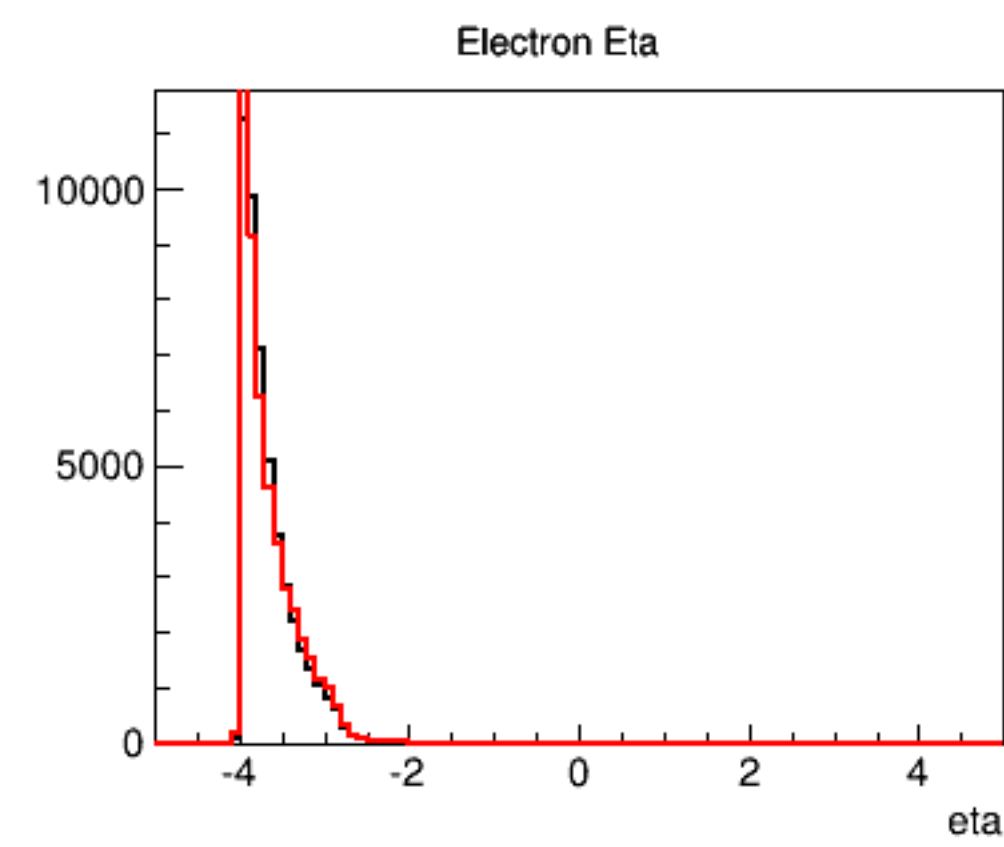
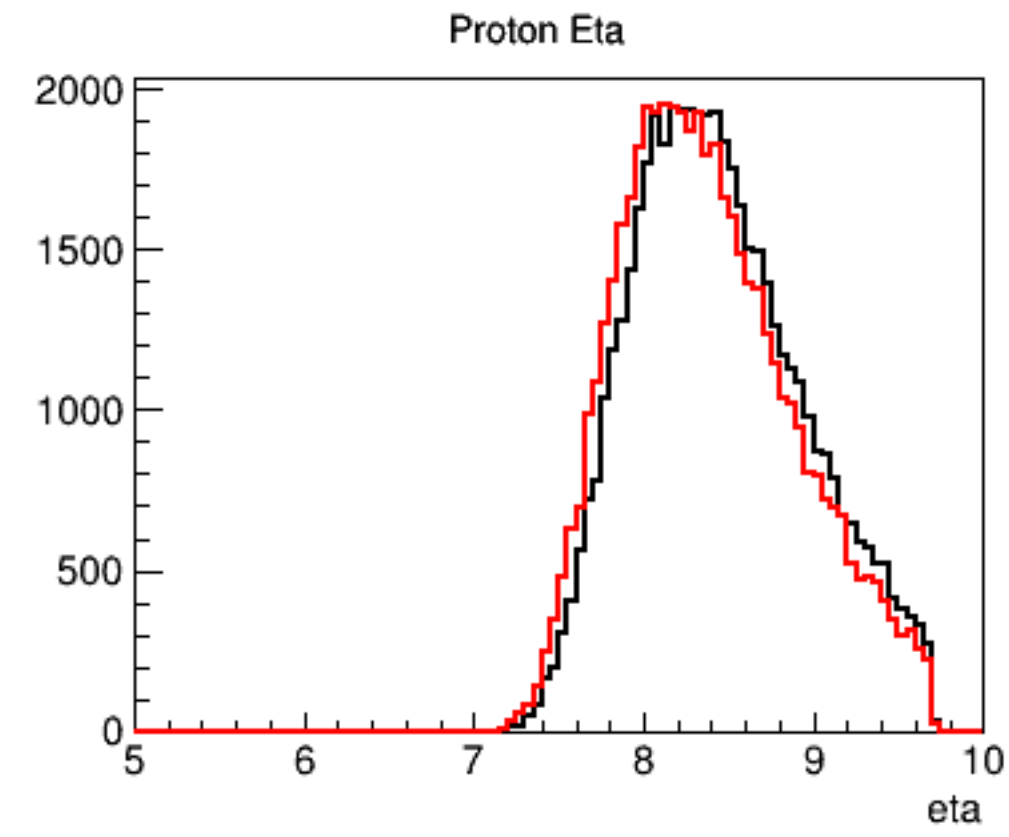
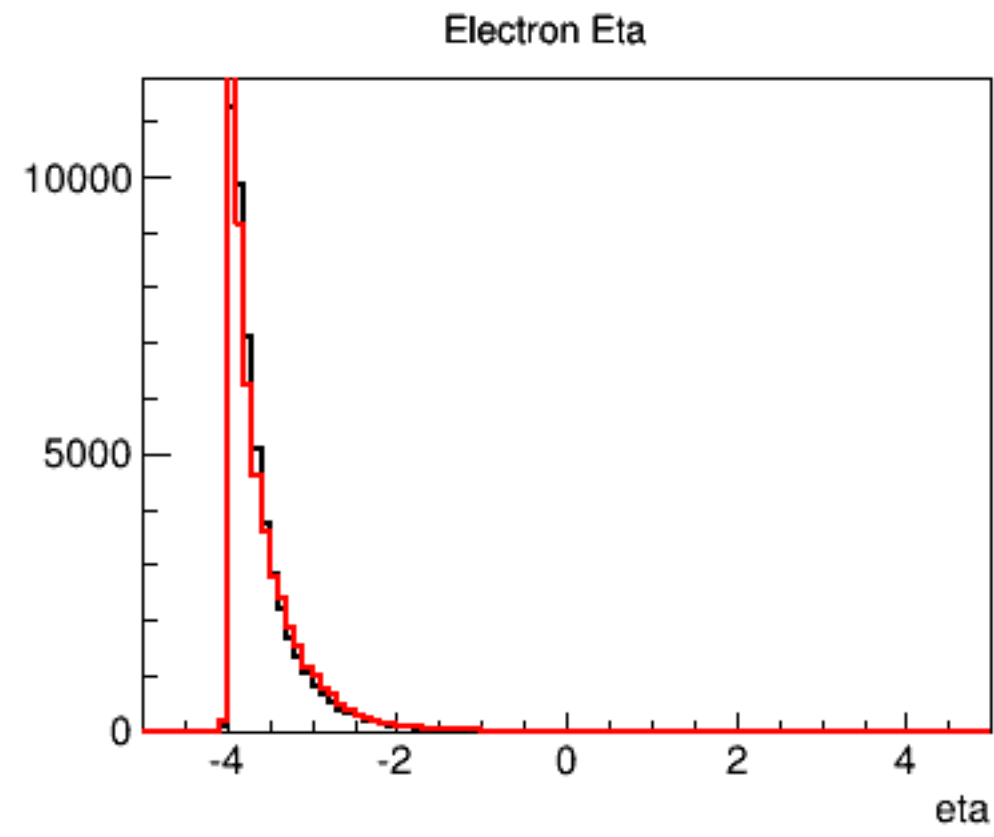


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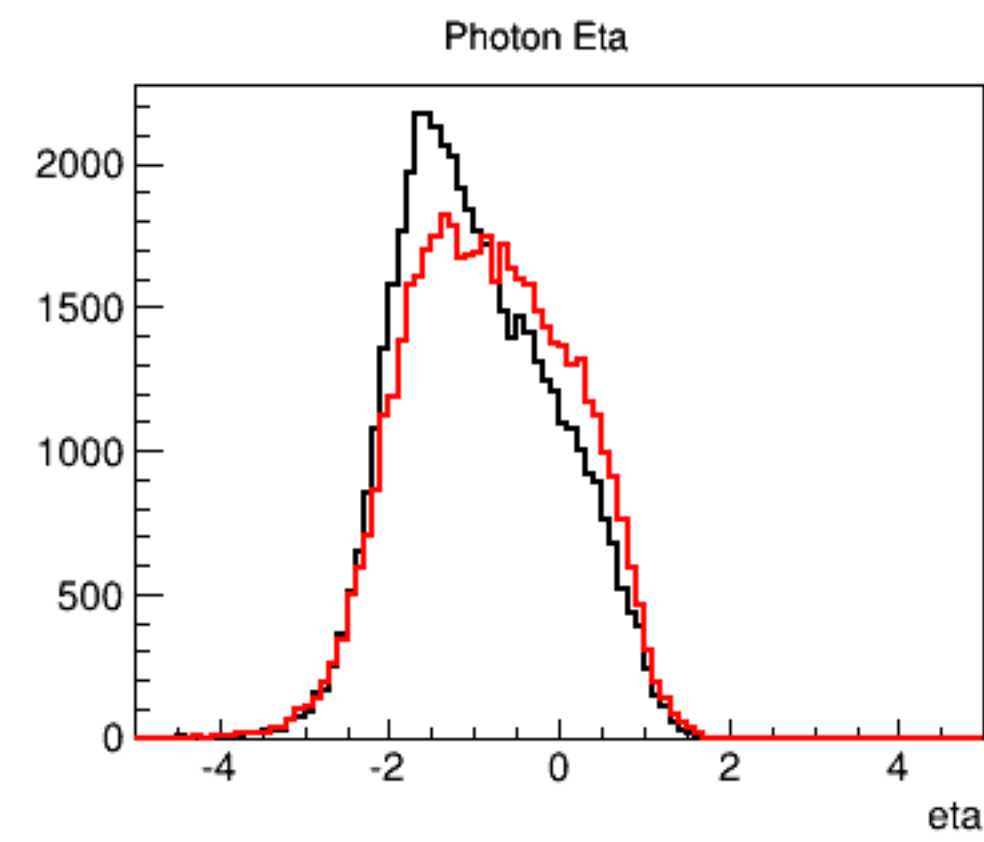


MILOU CFF
PARTONS CFF

$Q^2 < 5 \text{ GeV}^2$



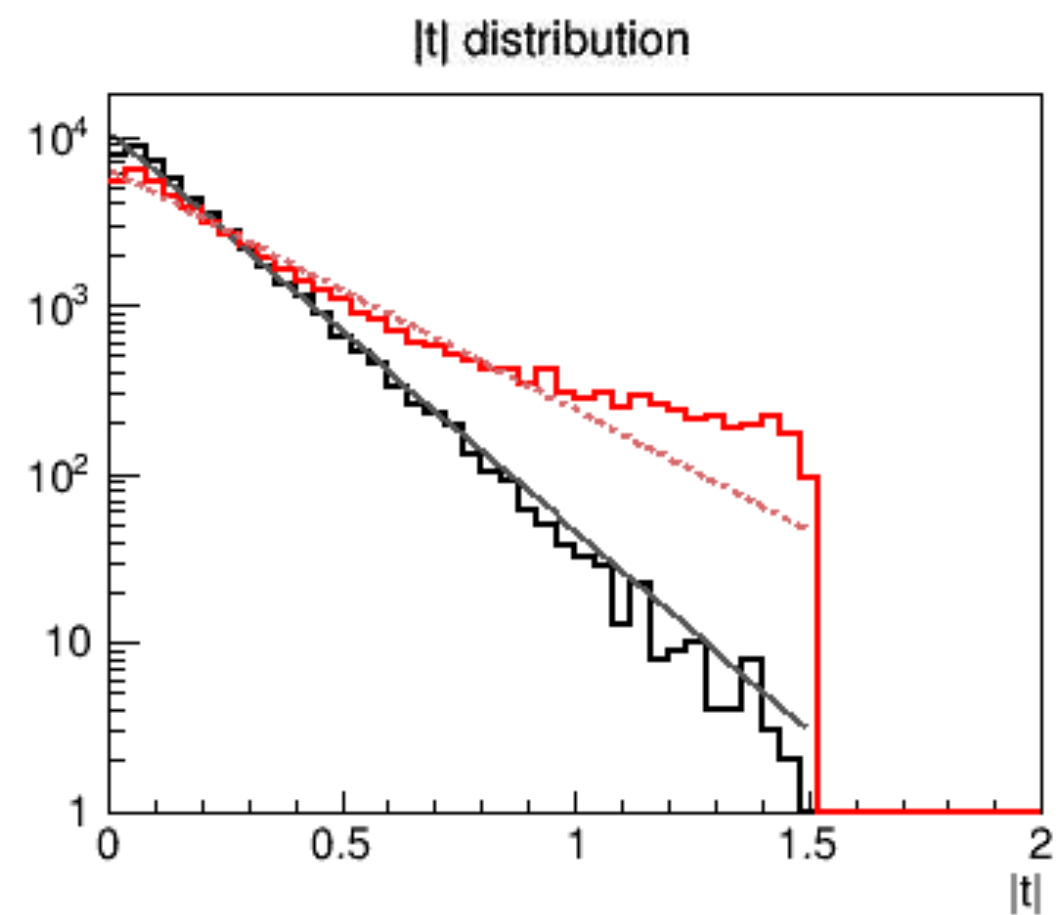
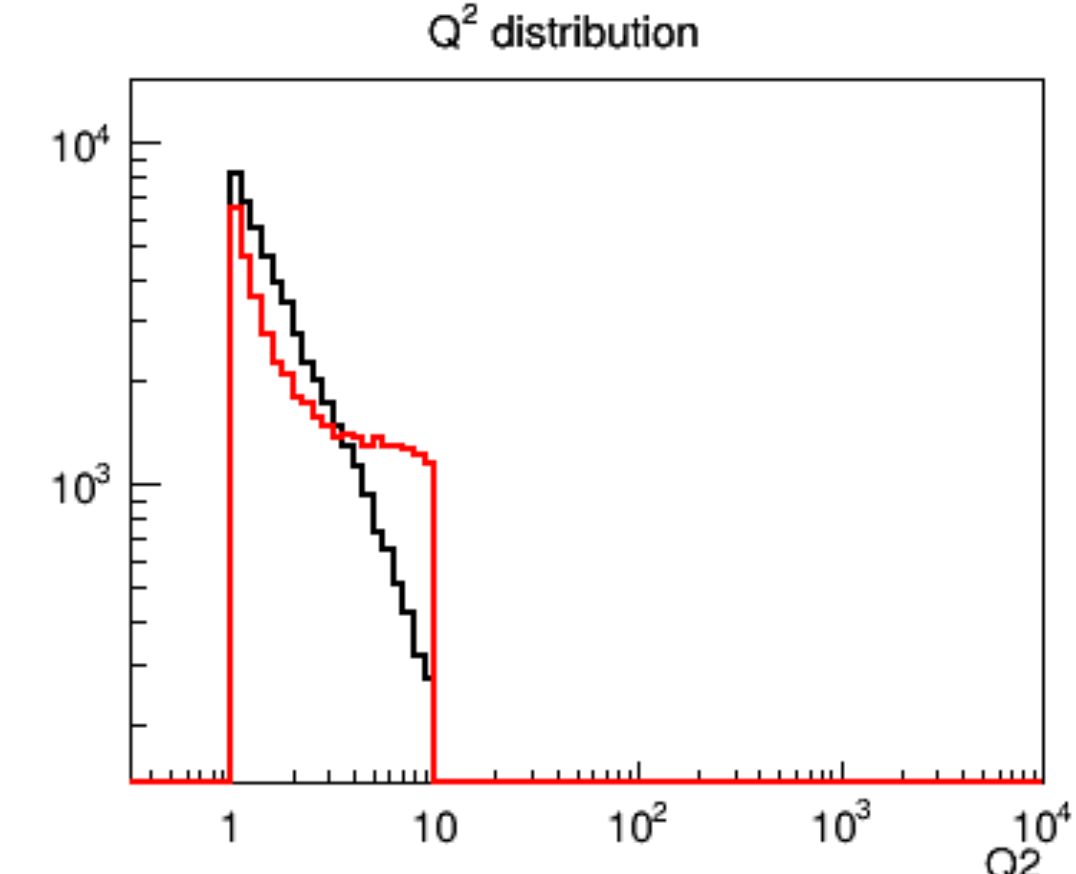
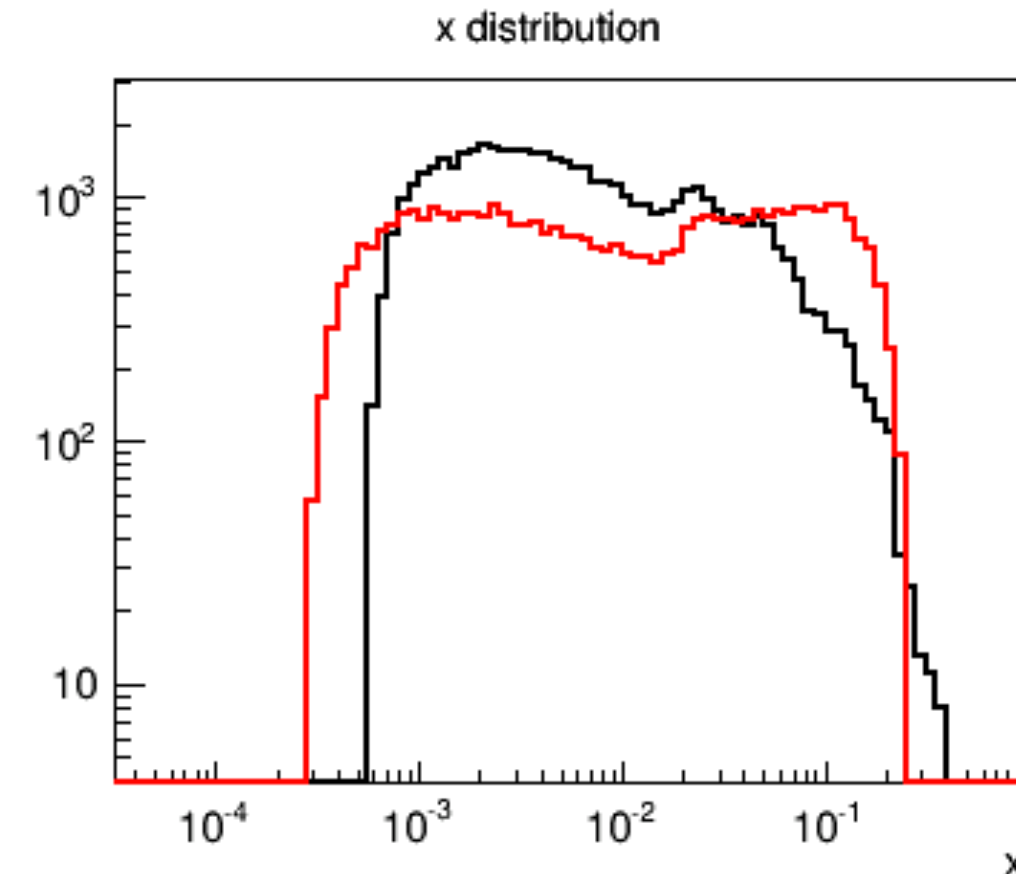
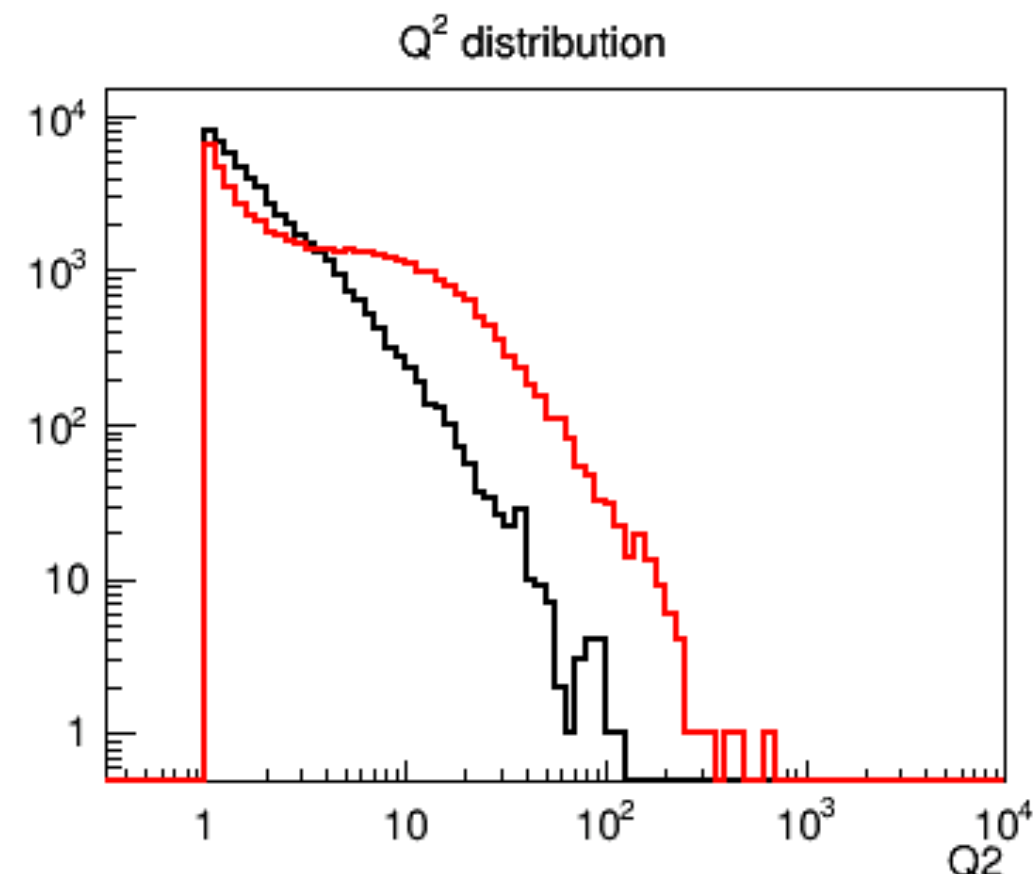
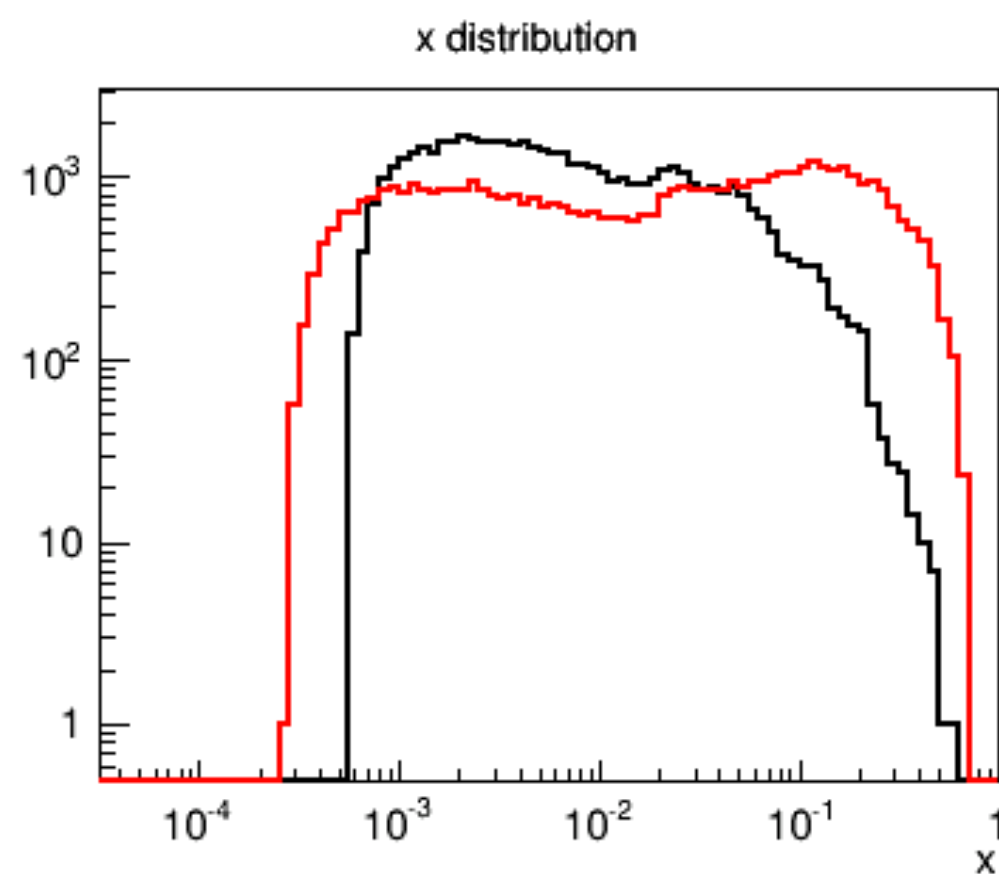
MILOU CFF
PARTONS CFF



MILOU CFF
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5x100 e- + p

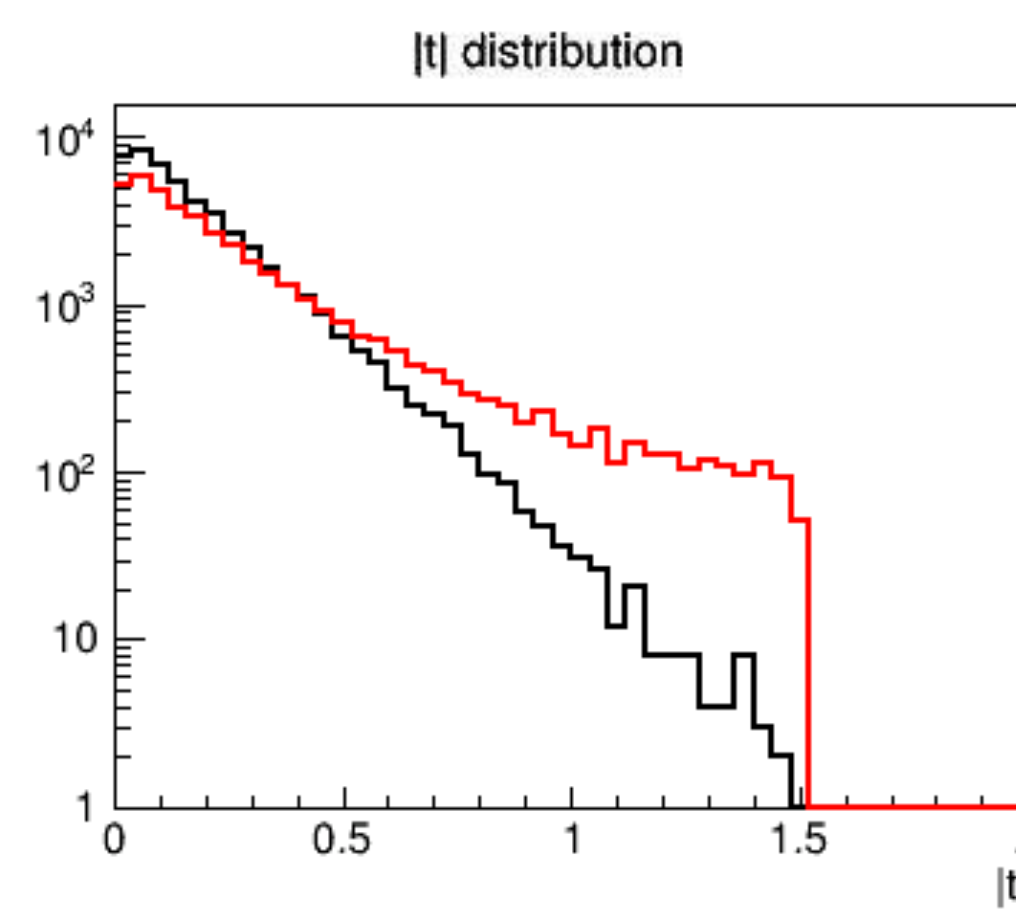
$Q^2 < 5 \text{ GeV}^2$



MILOU CFF
PARTONS CFF

Slope -5.45 ± 0.02

Slope -3.28 ± 0.02



MILOU CFF
PARTONS CFF

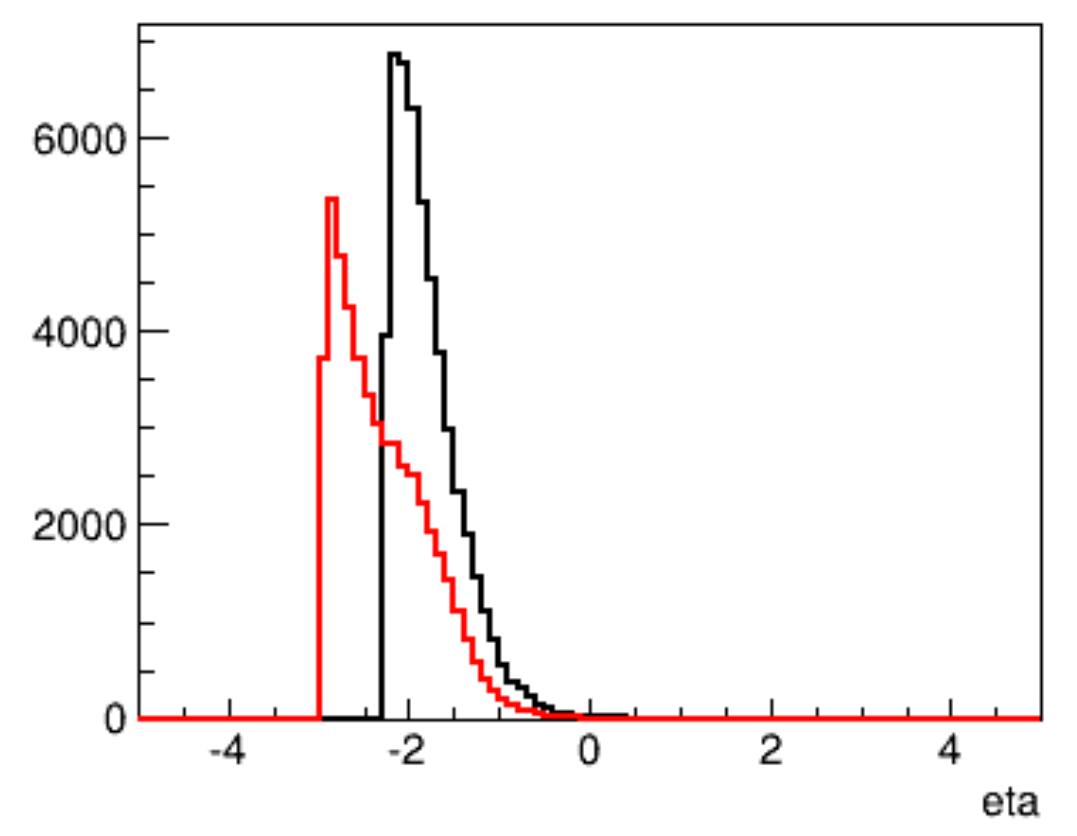
Slope -5.45 ± 0.02

Slope -3.87 ± 0.02

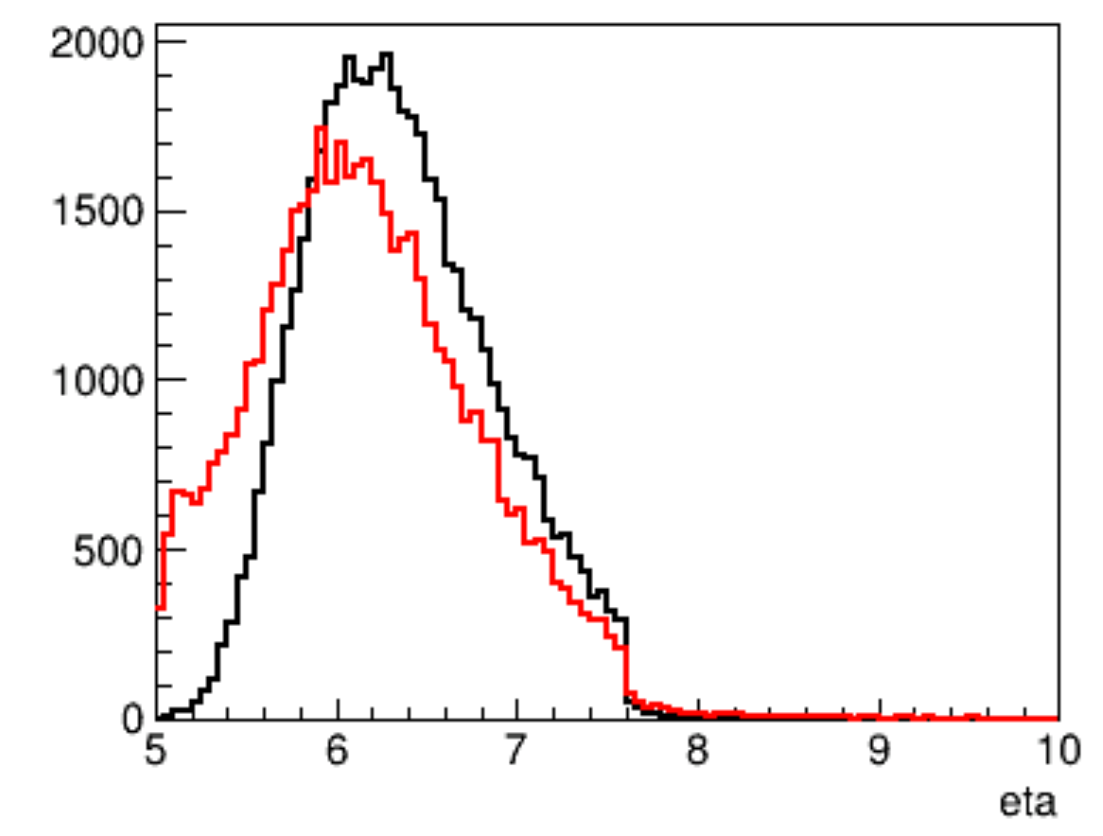
$Q^2 < 5 \text{ GeV}^2$



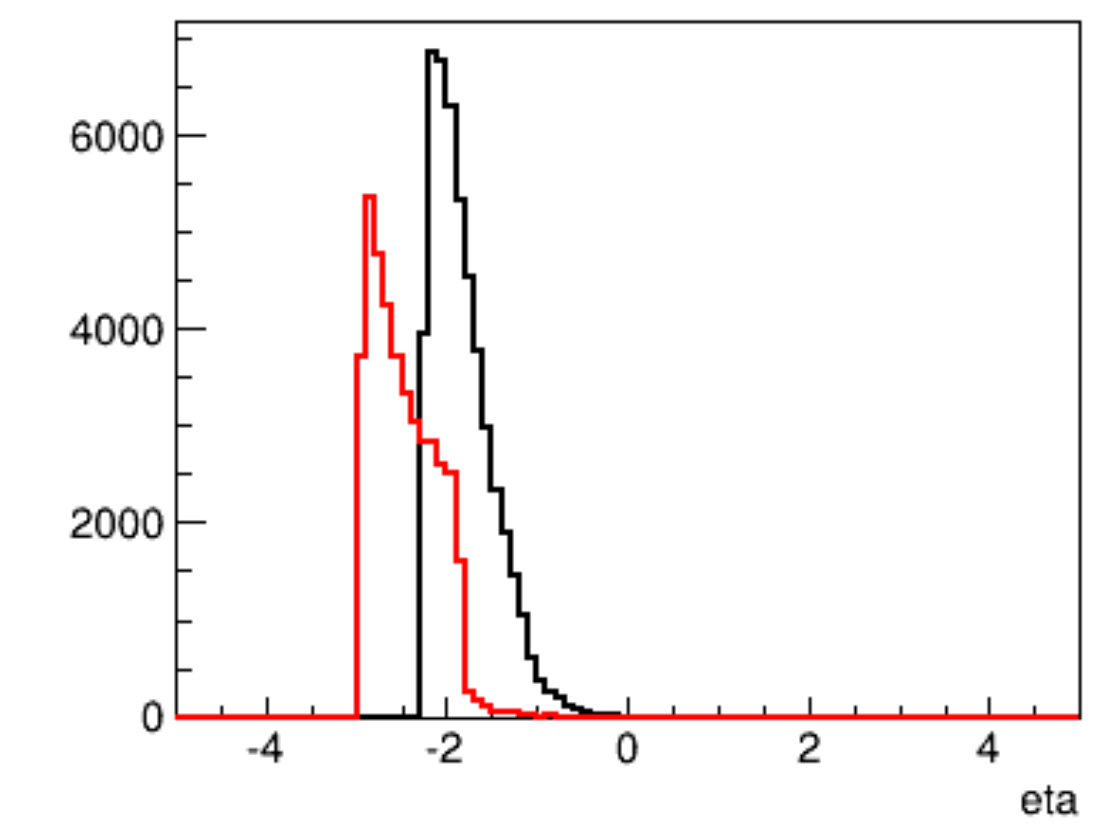
Electron Eta



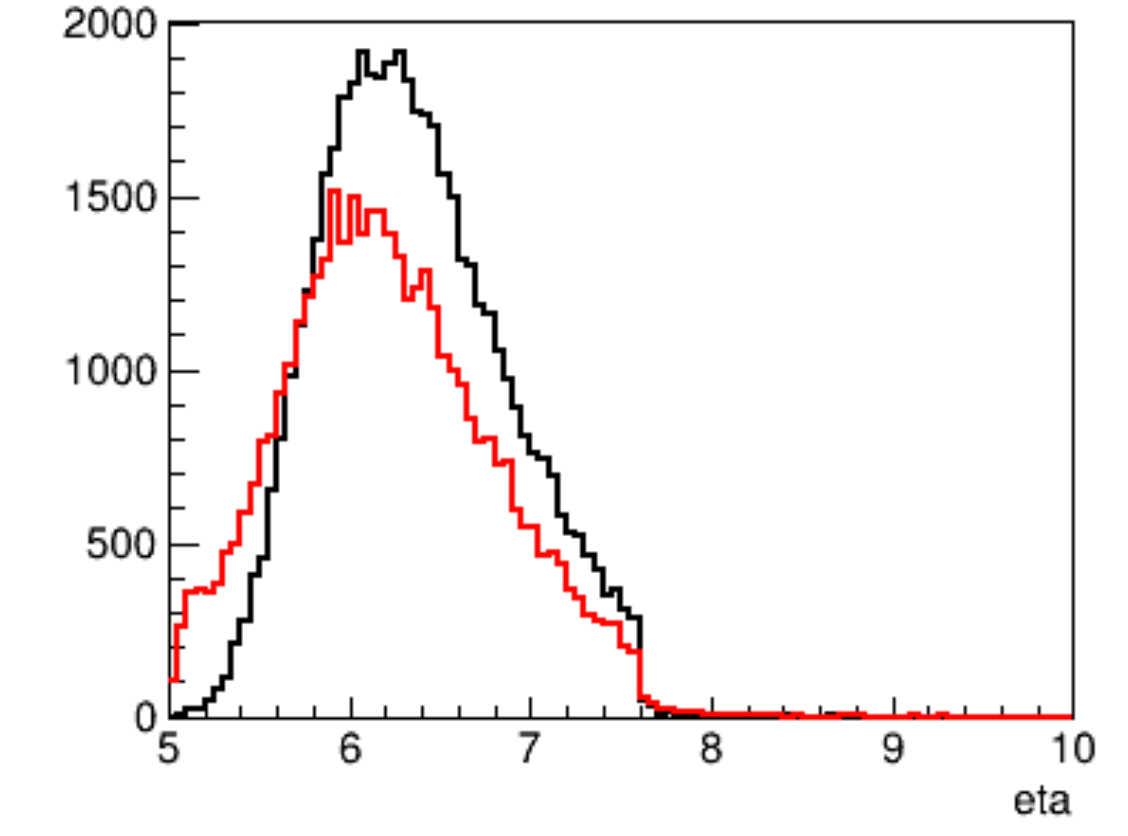
Proton Eta



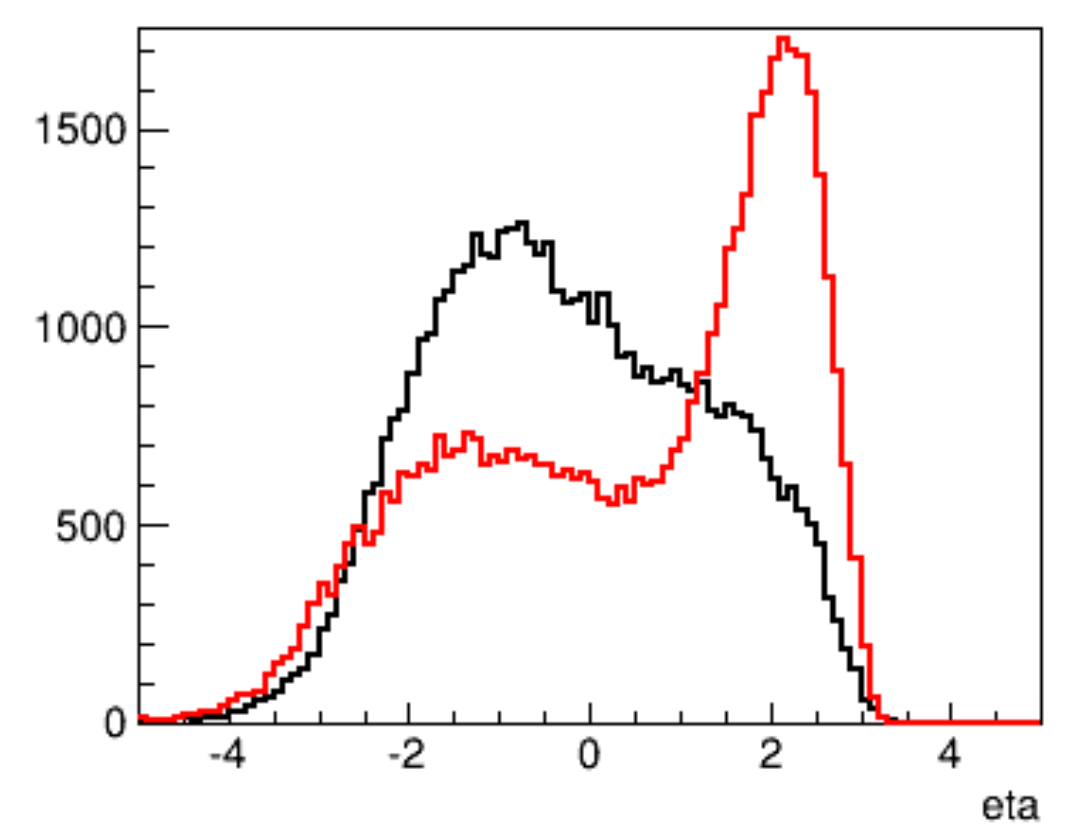
Electron Eta



Proton Eta

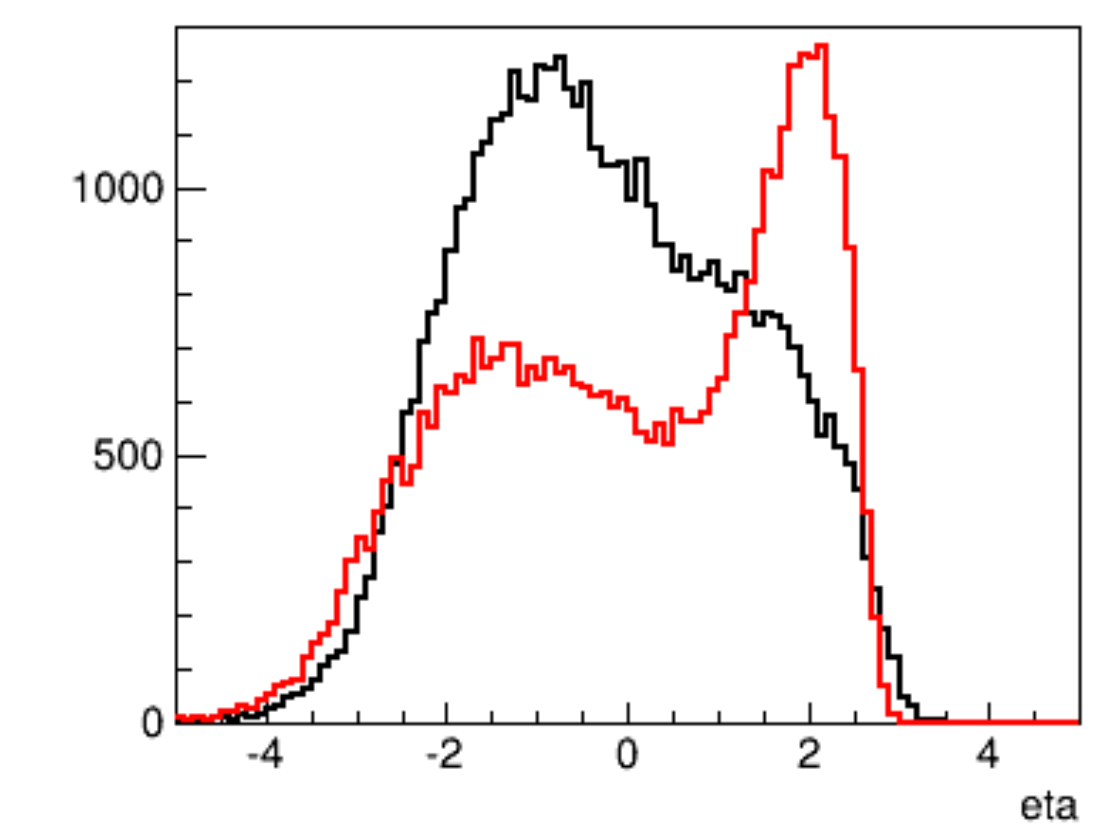


Photon Eta



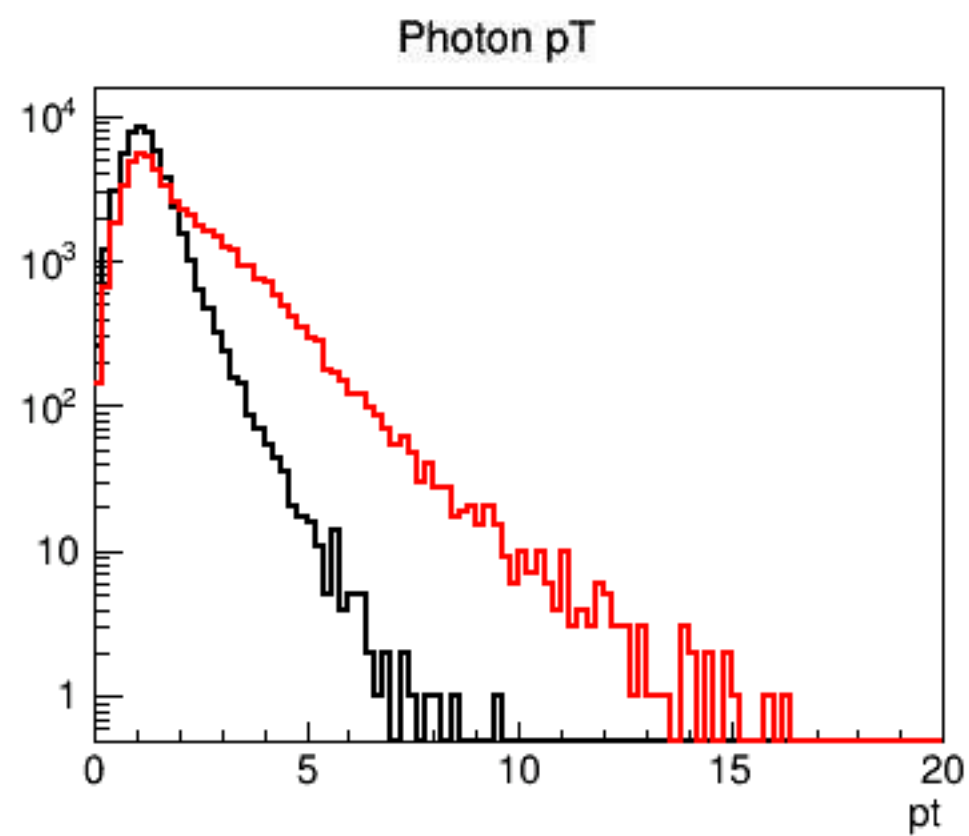
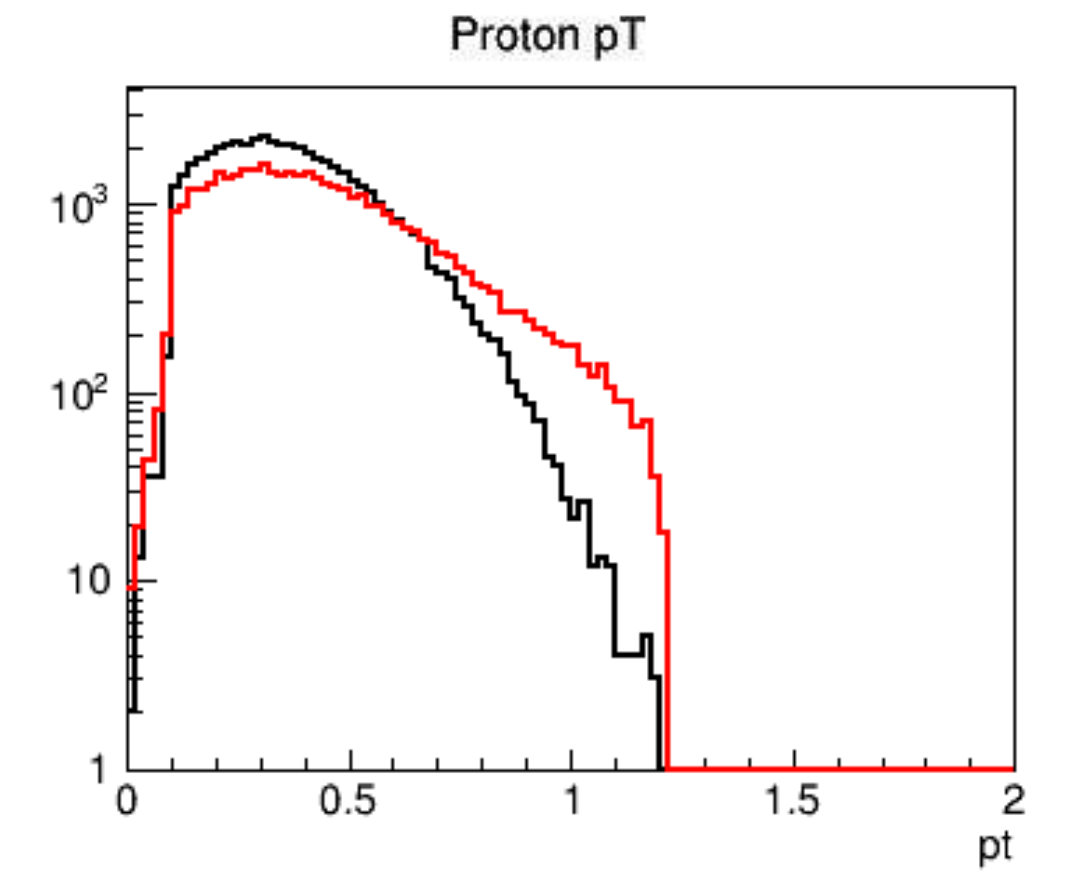
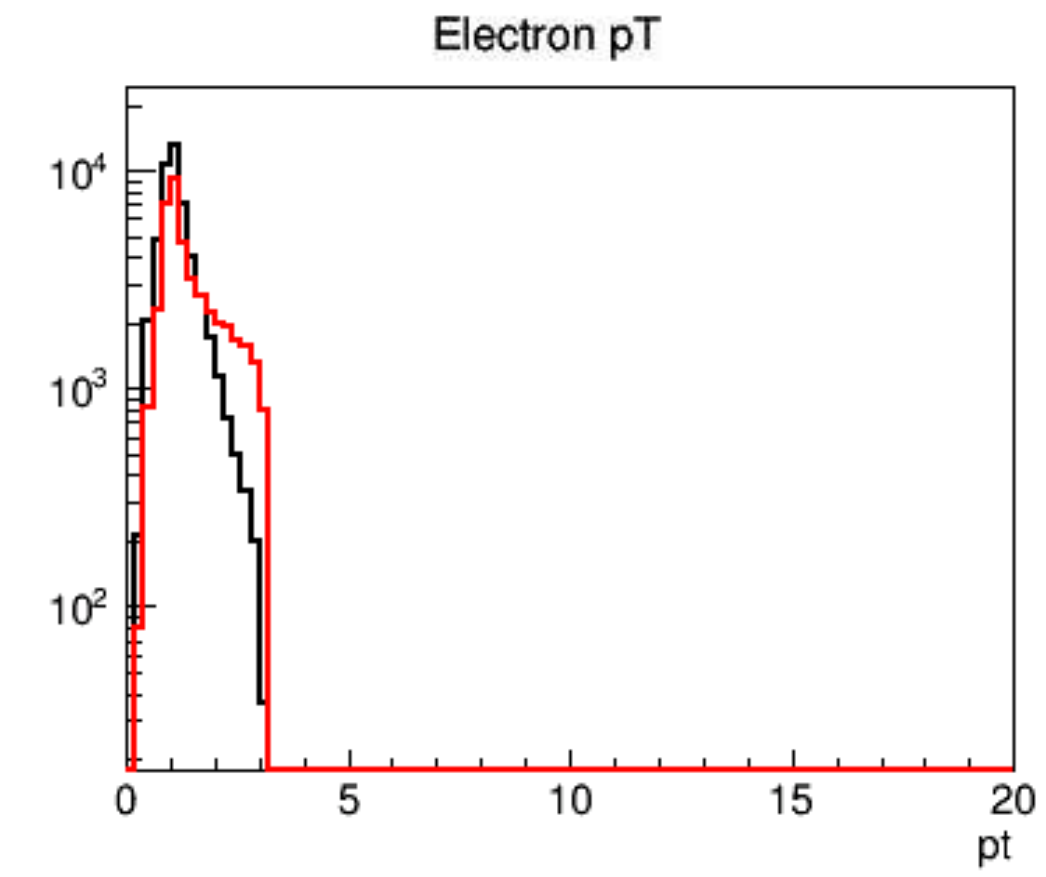
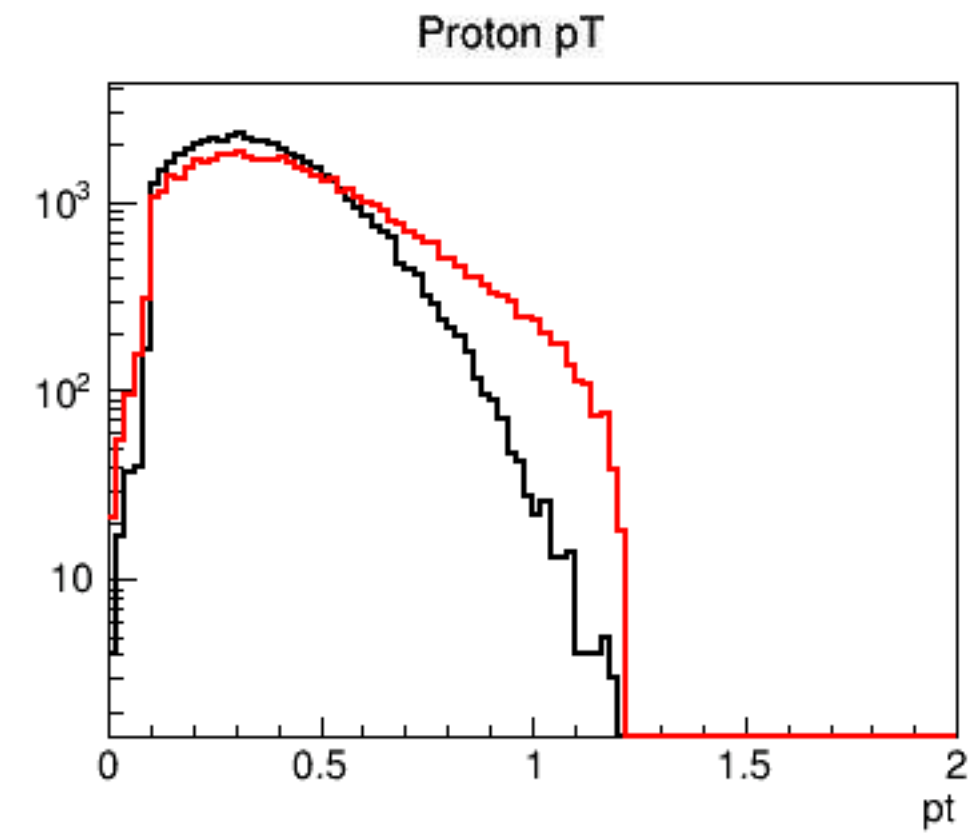
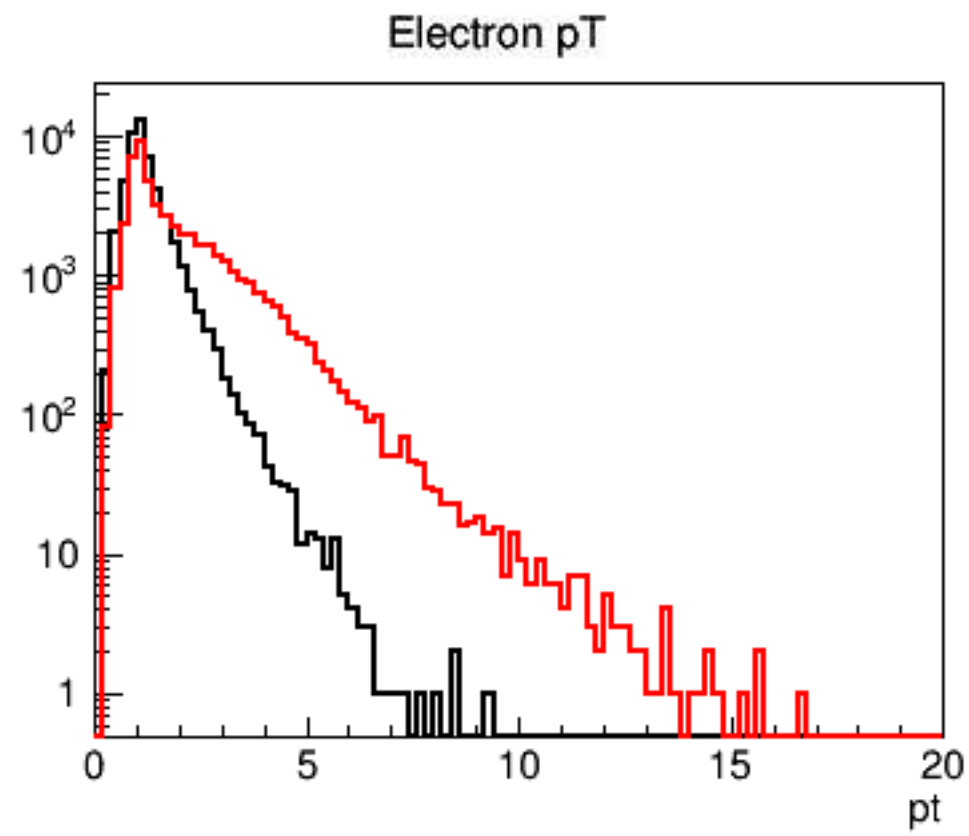
MILOU CFF
PARTONS CFF

Photon Eta

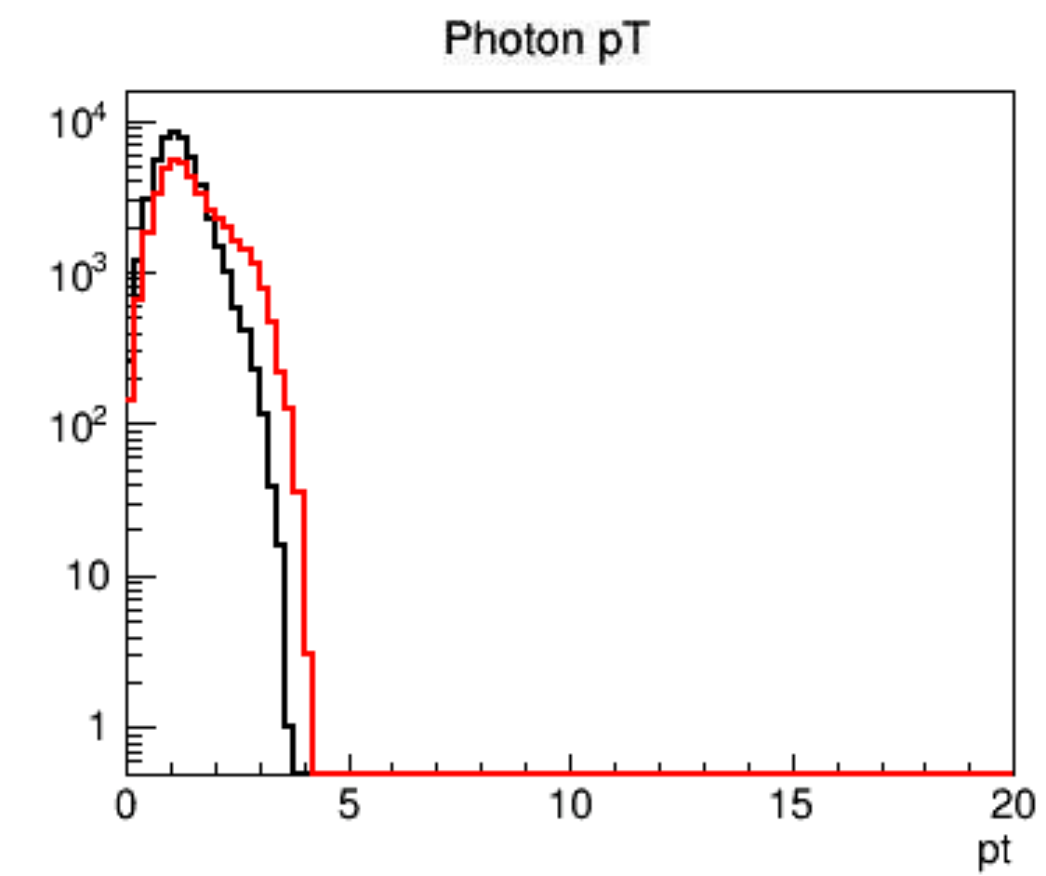


MILOU CFF
PARTONS CFF

$Q^2 < 5 \text{ GeV}^2$



MILOU CFF
PARTONS CFF



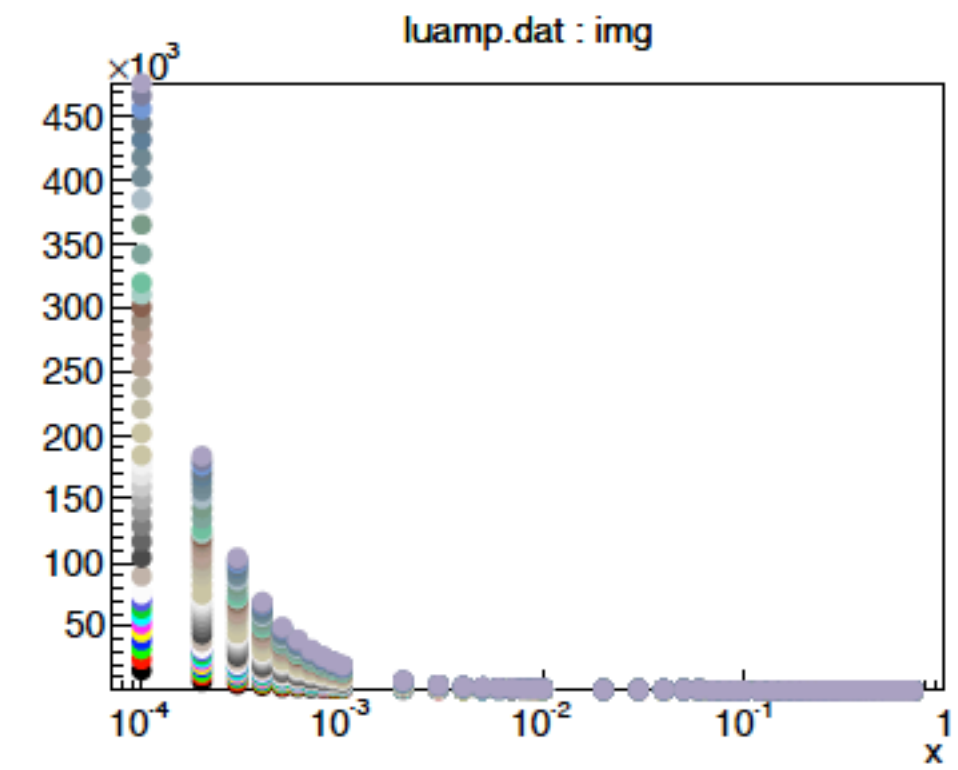
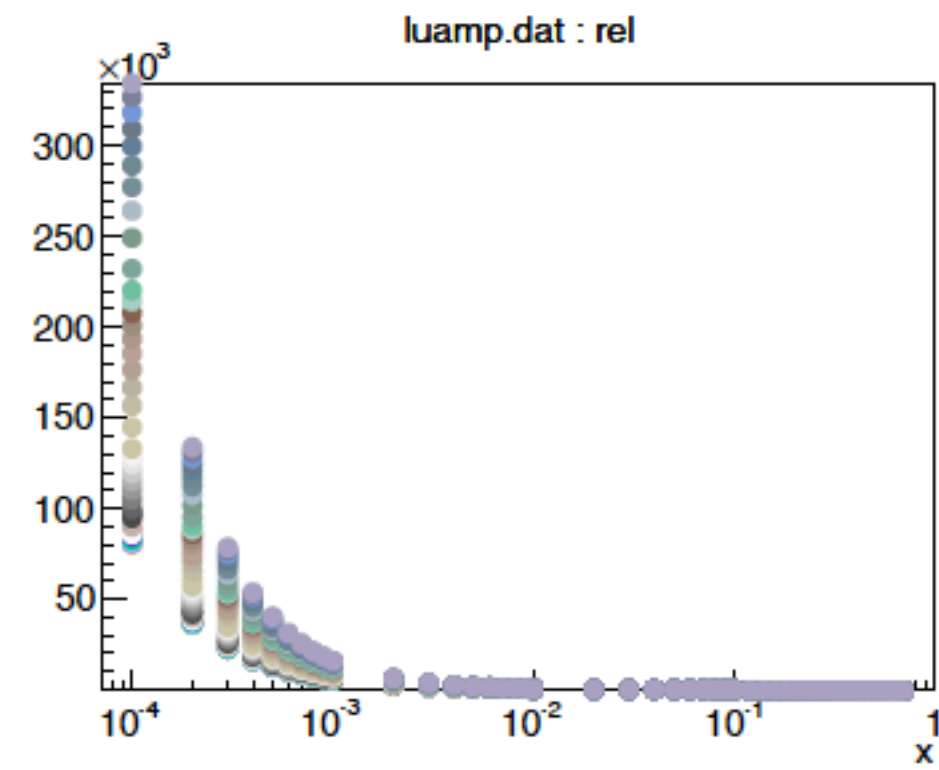
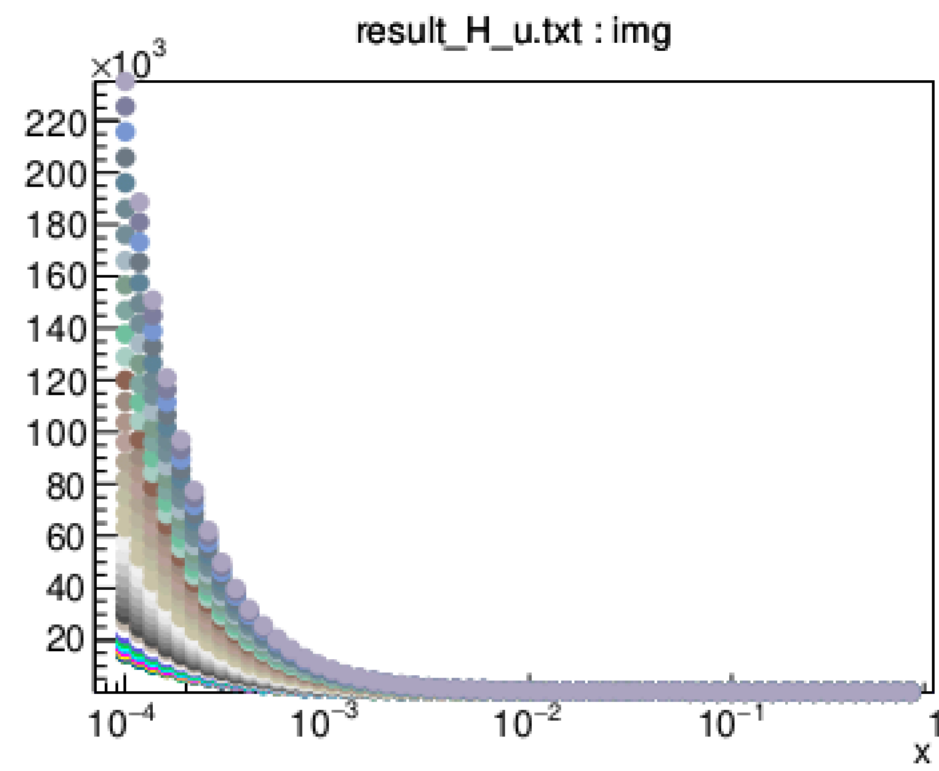
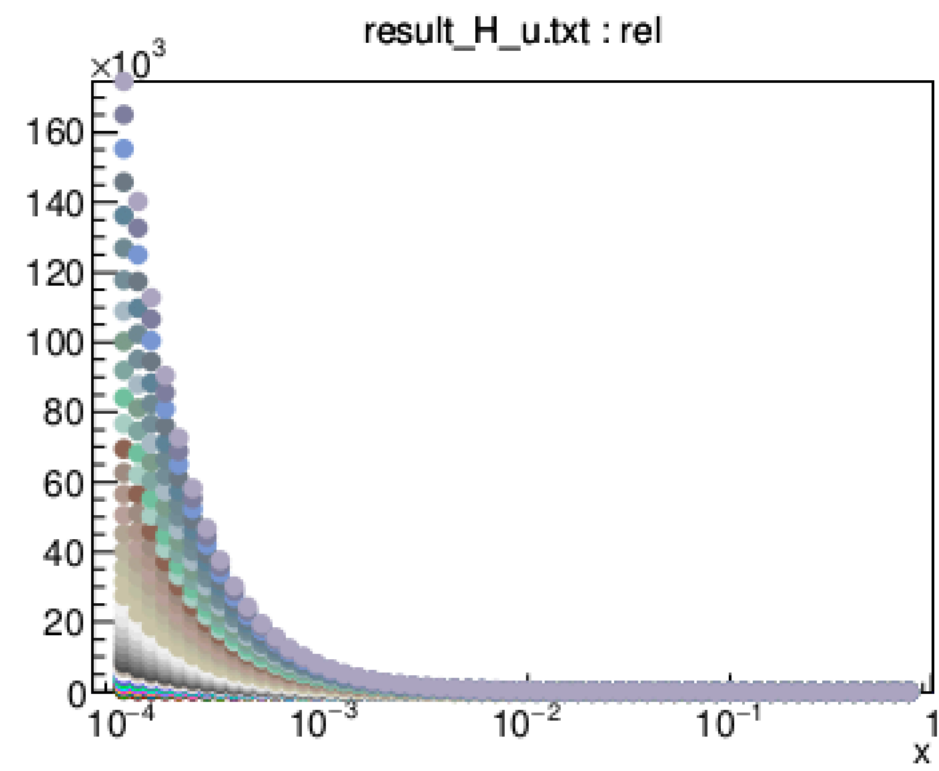
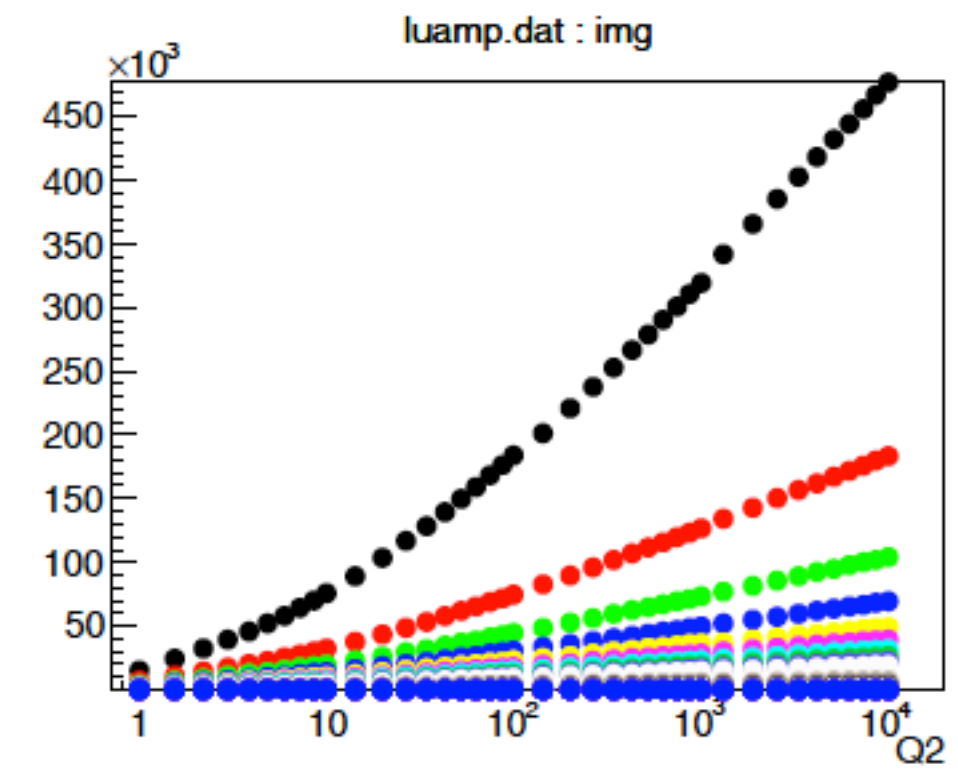
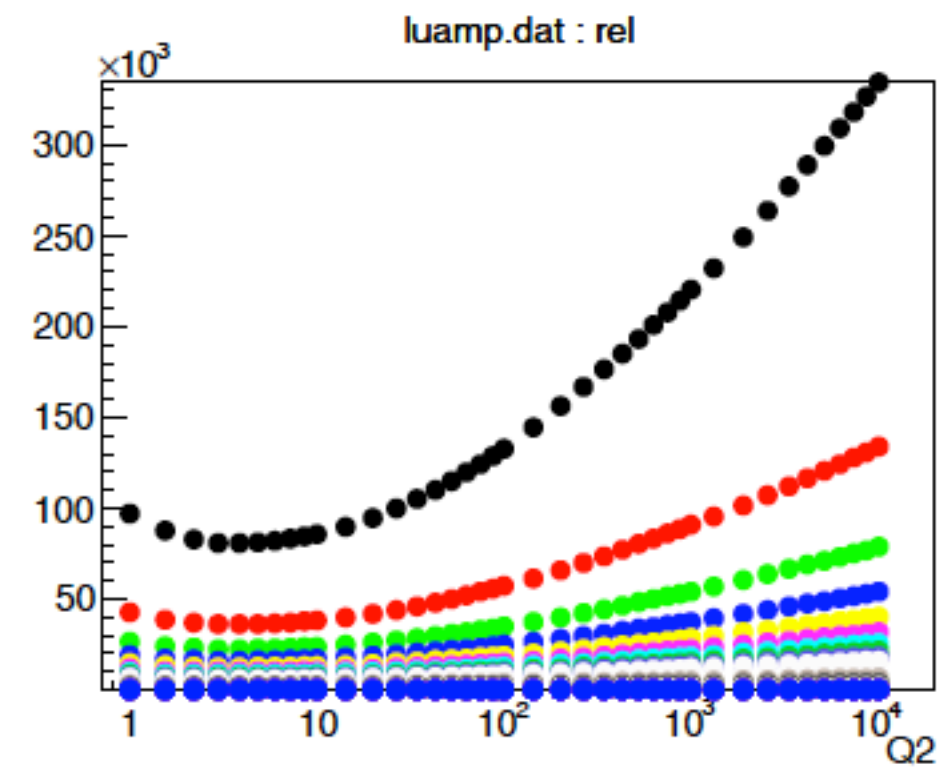
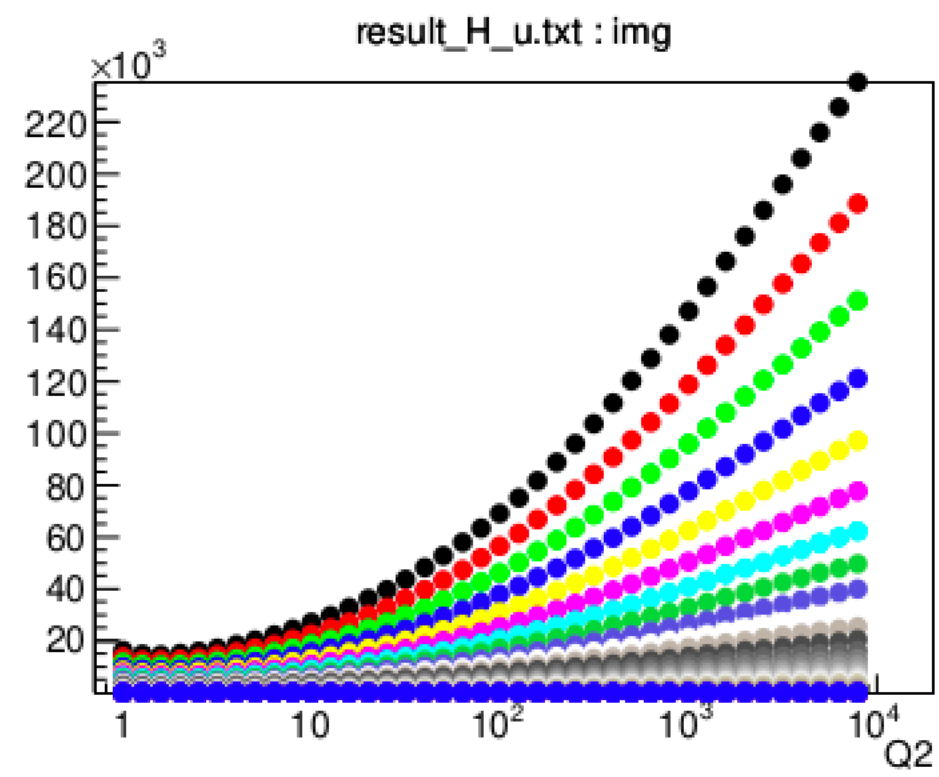
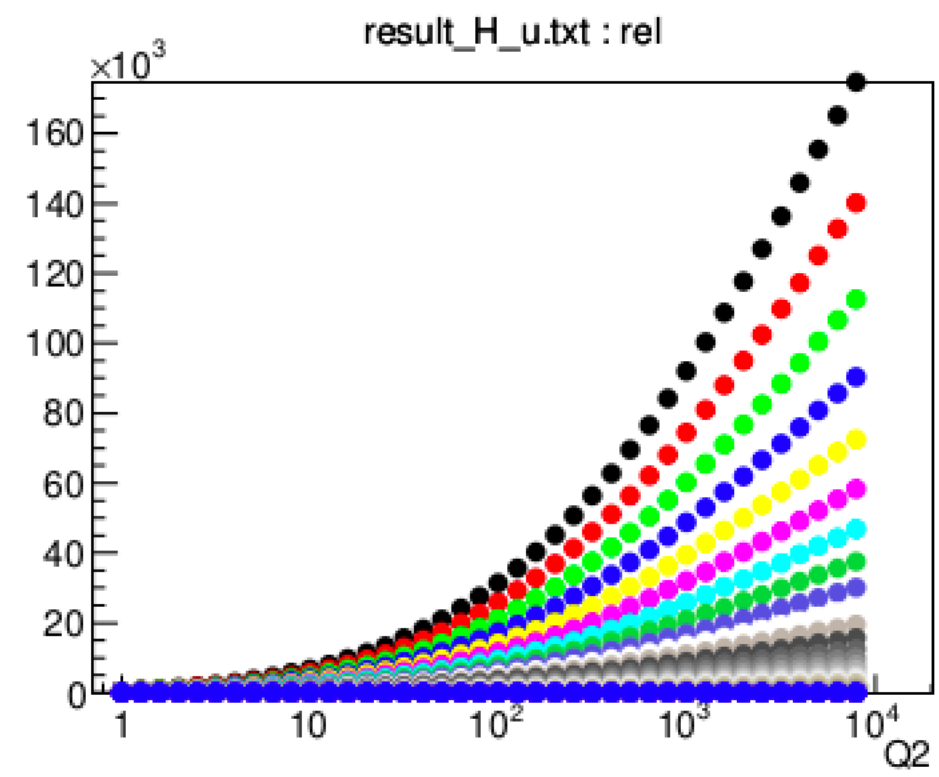
MILOU CFF
PARTONS CFF

CFF Grid files Comparison: PARTONS vs. Milou

- Flavor separated
- LO for u, d, s
- NLO for u, d, s, g
- Twist-2 only (milou has non-zero twist3)

December 18, 2019

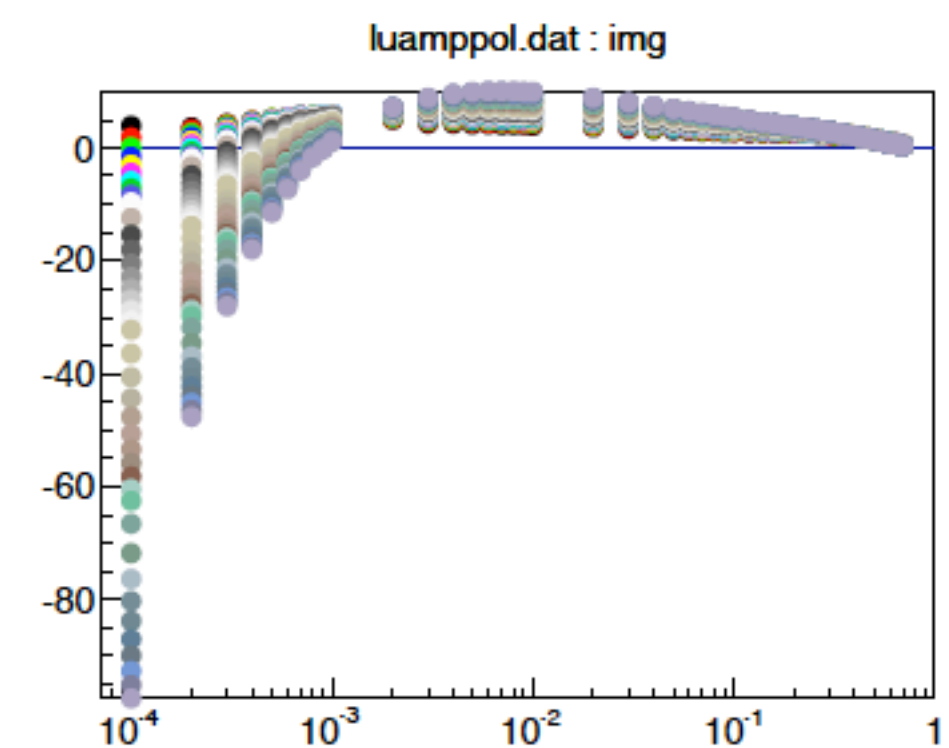
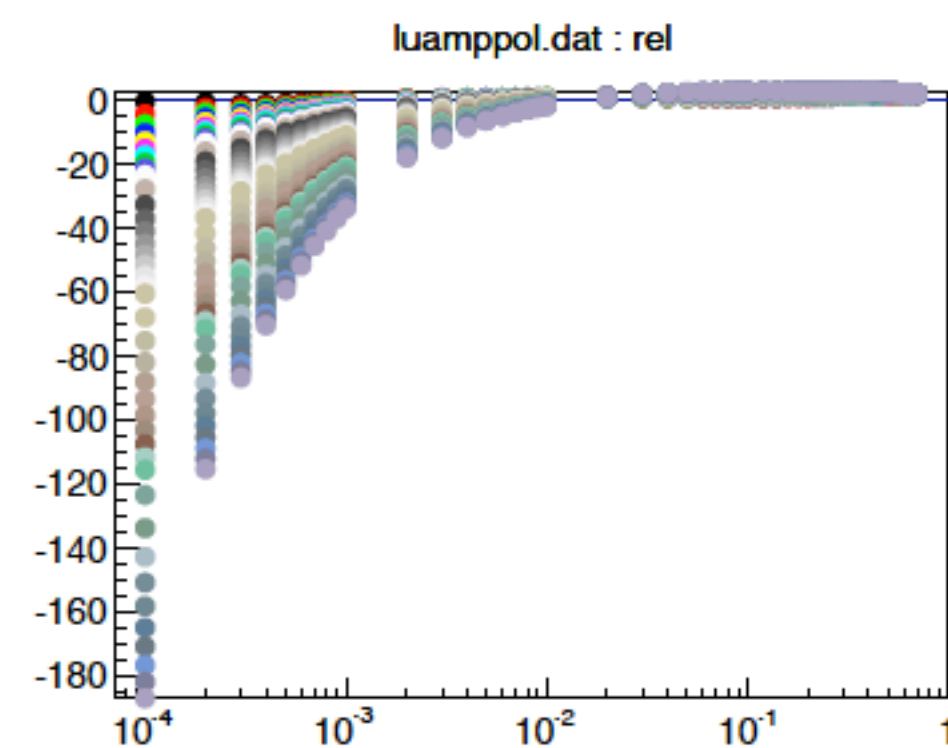
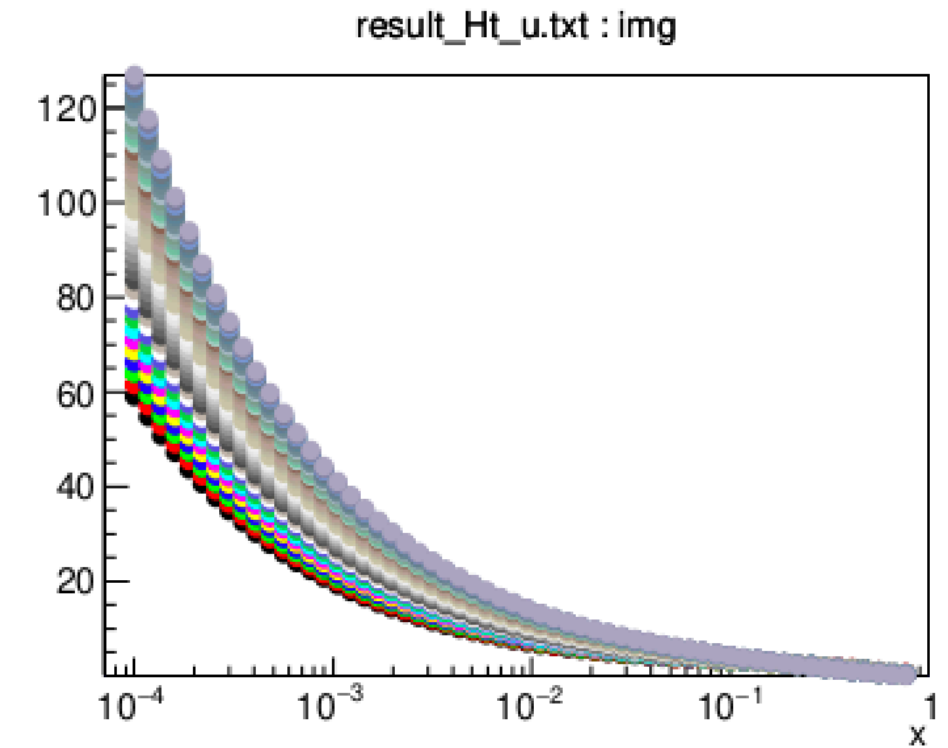
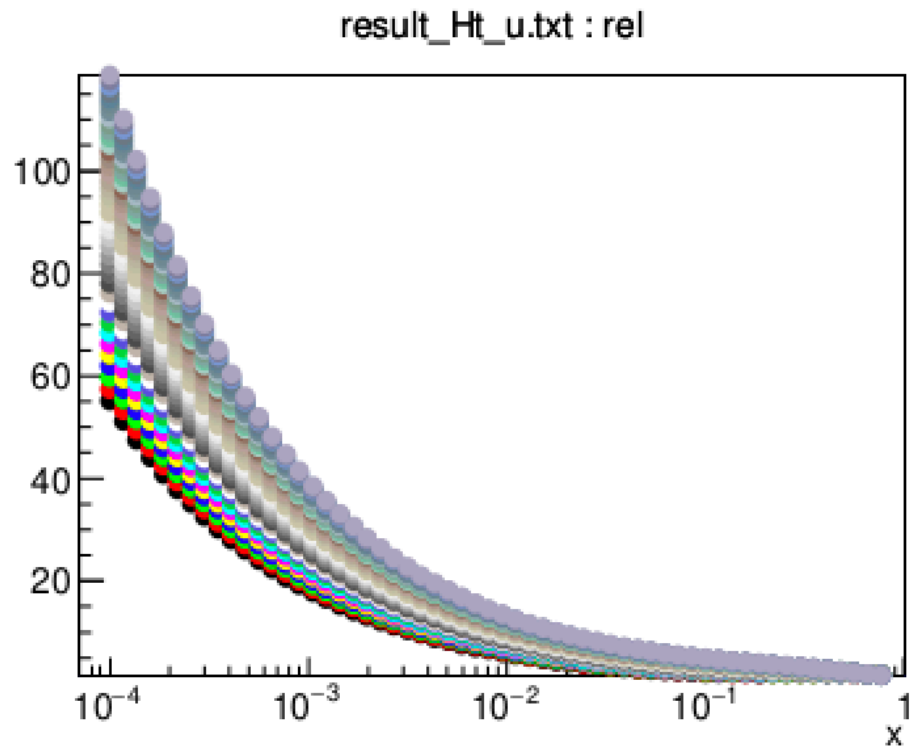
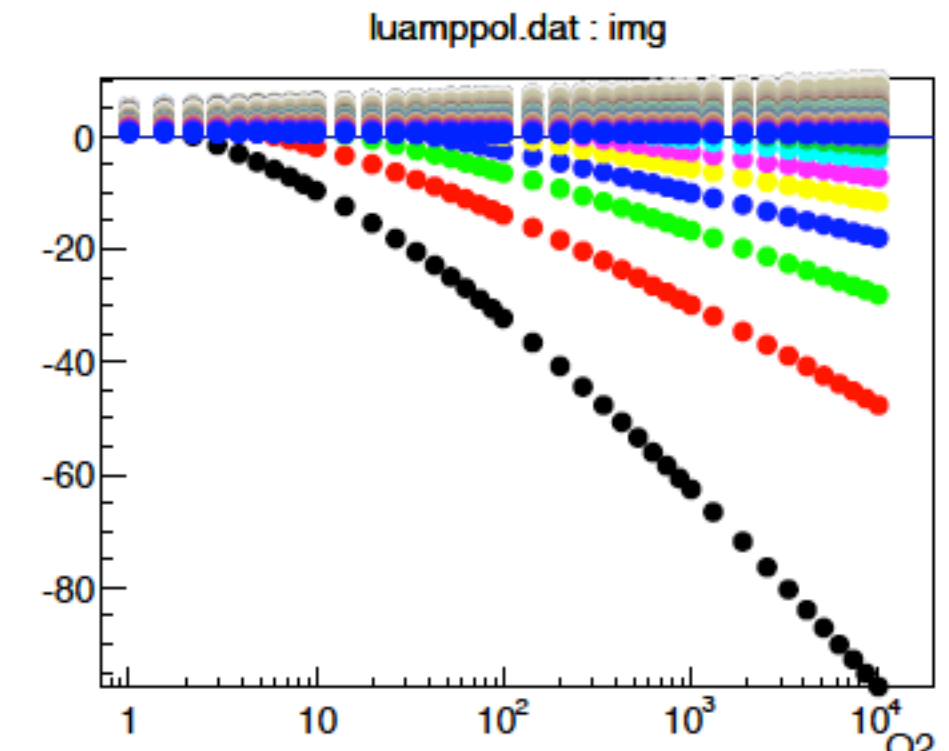
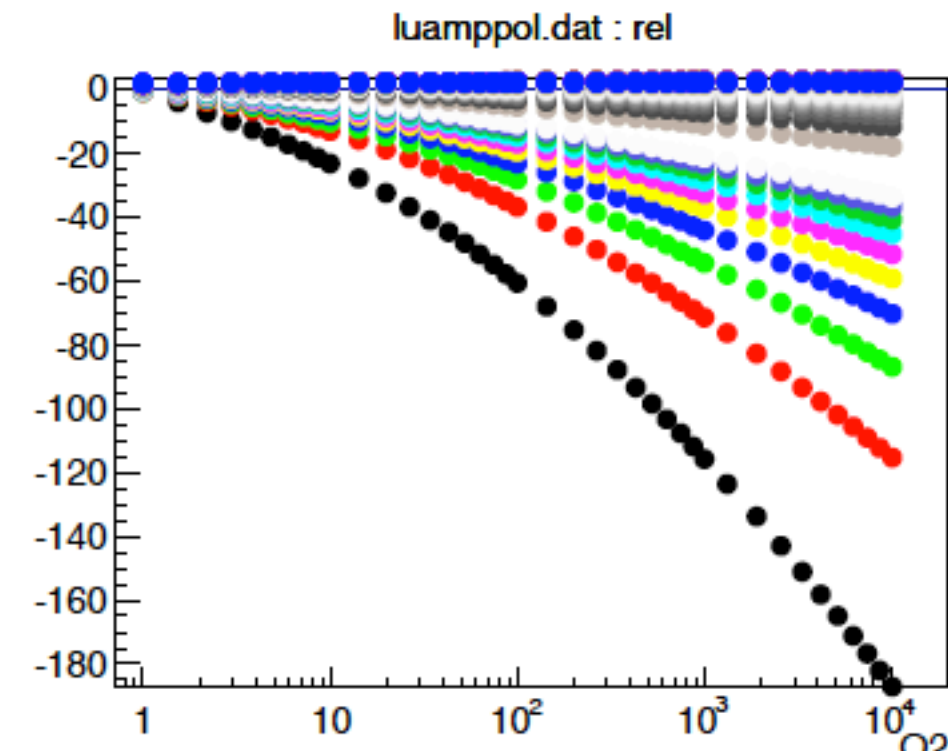
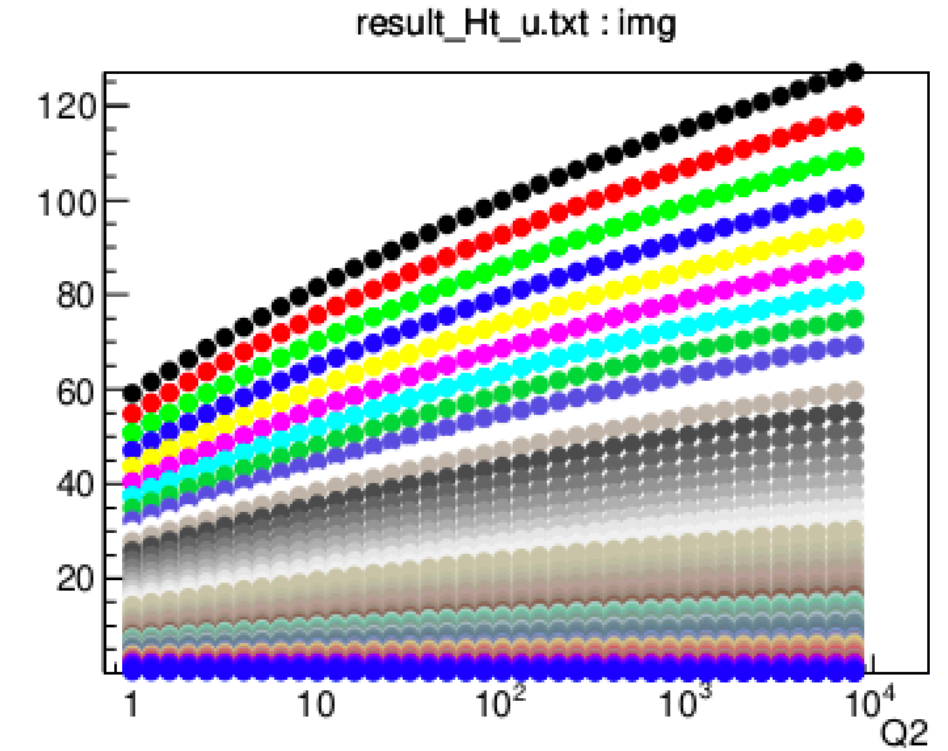
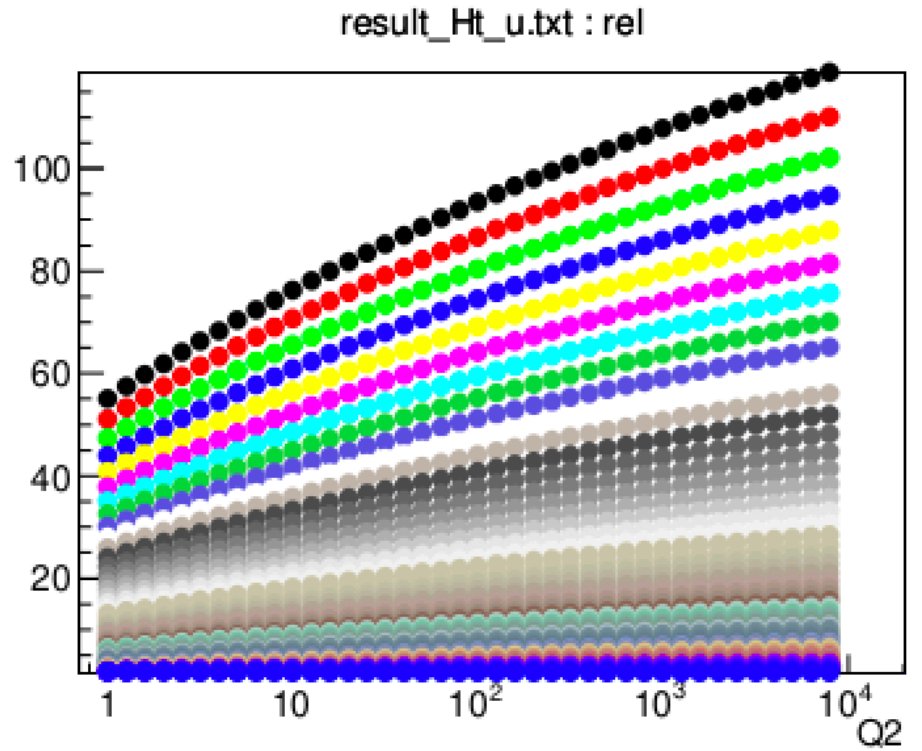
Up H LO



Partons

Milou

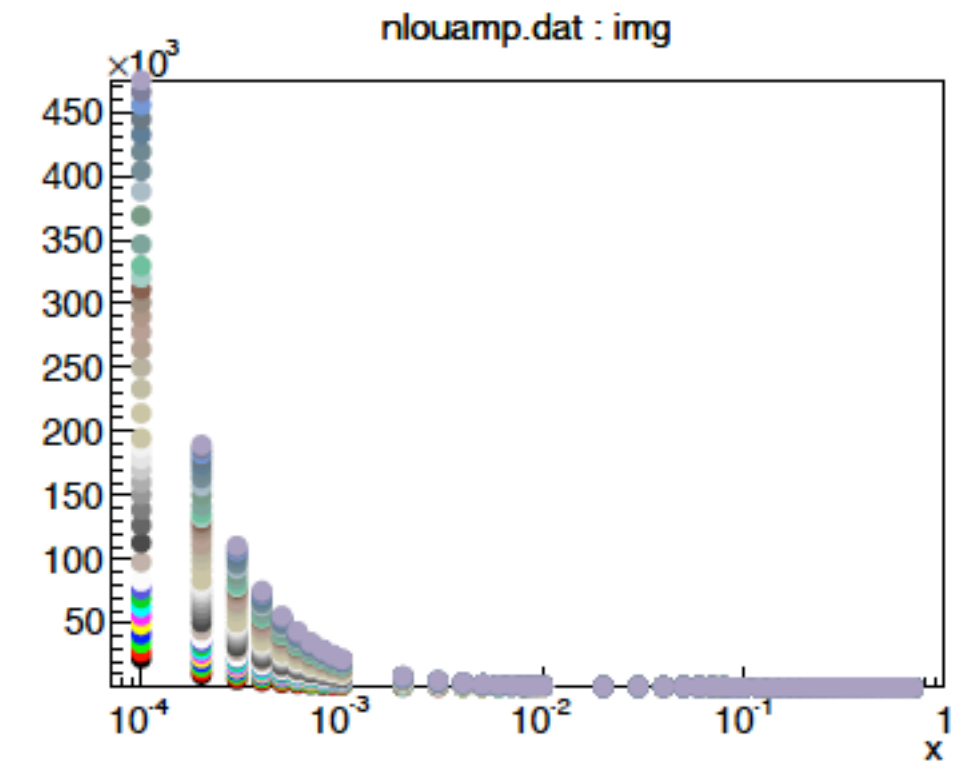
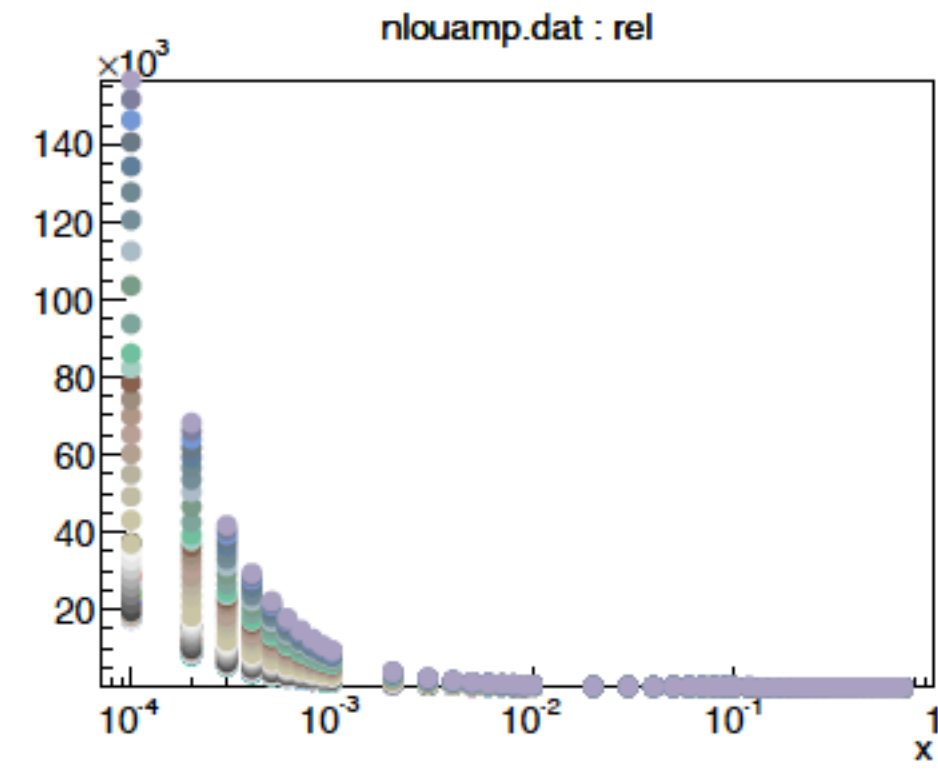
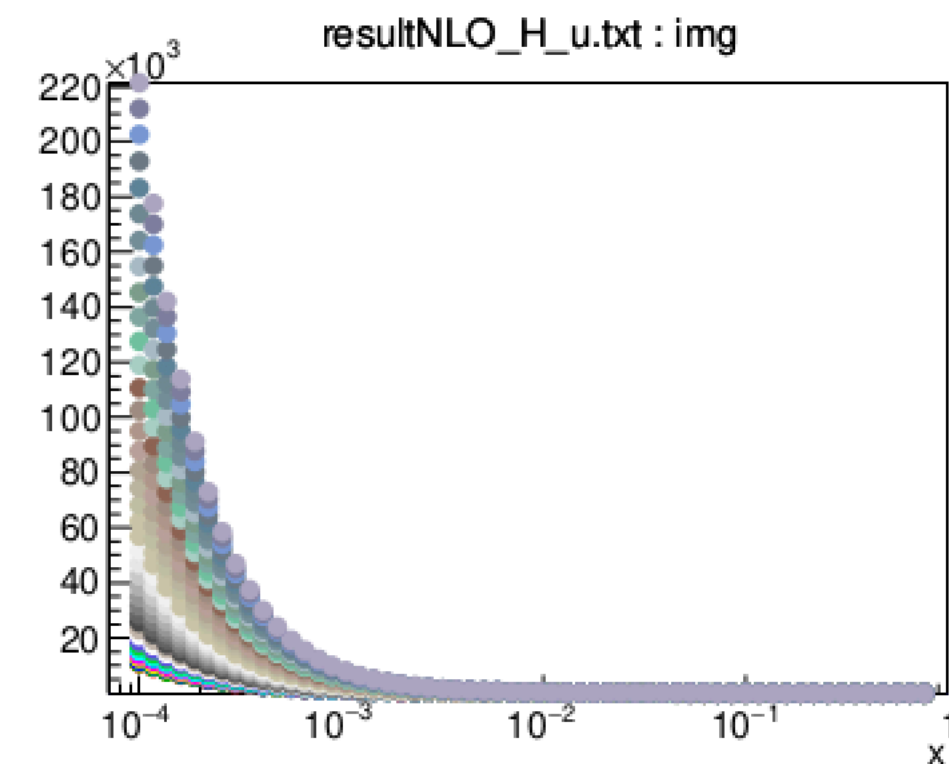
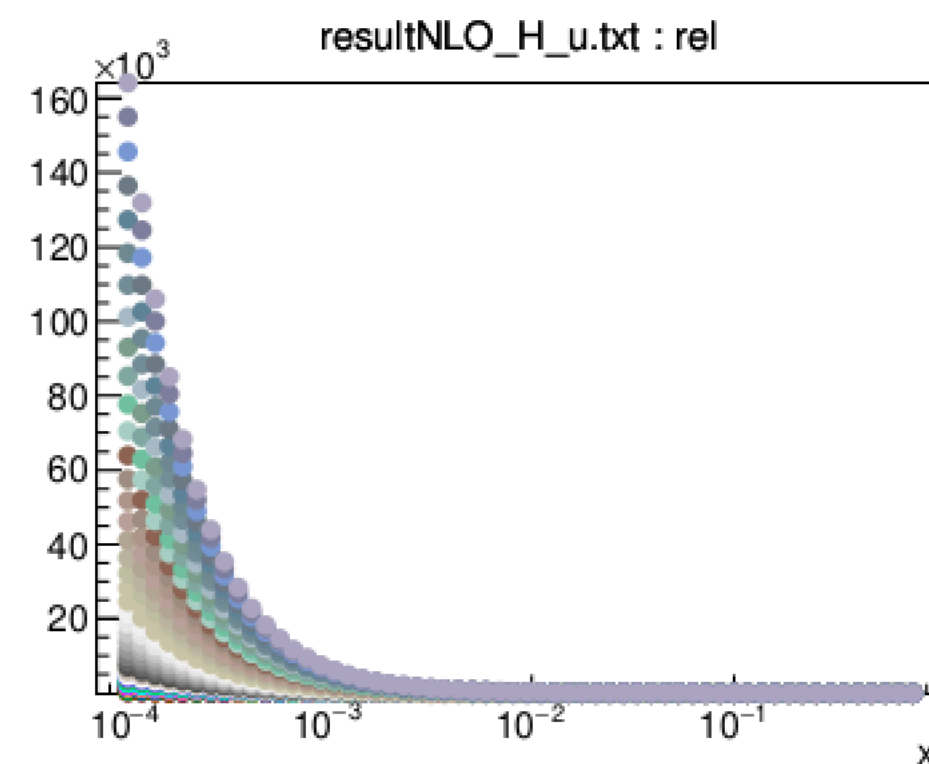
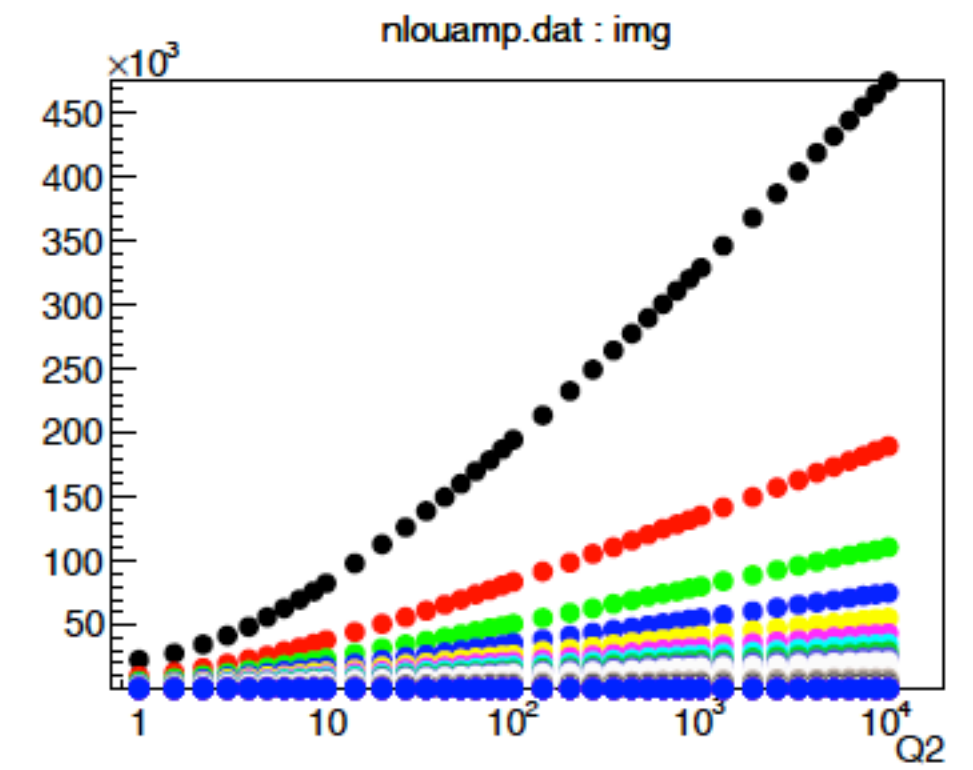
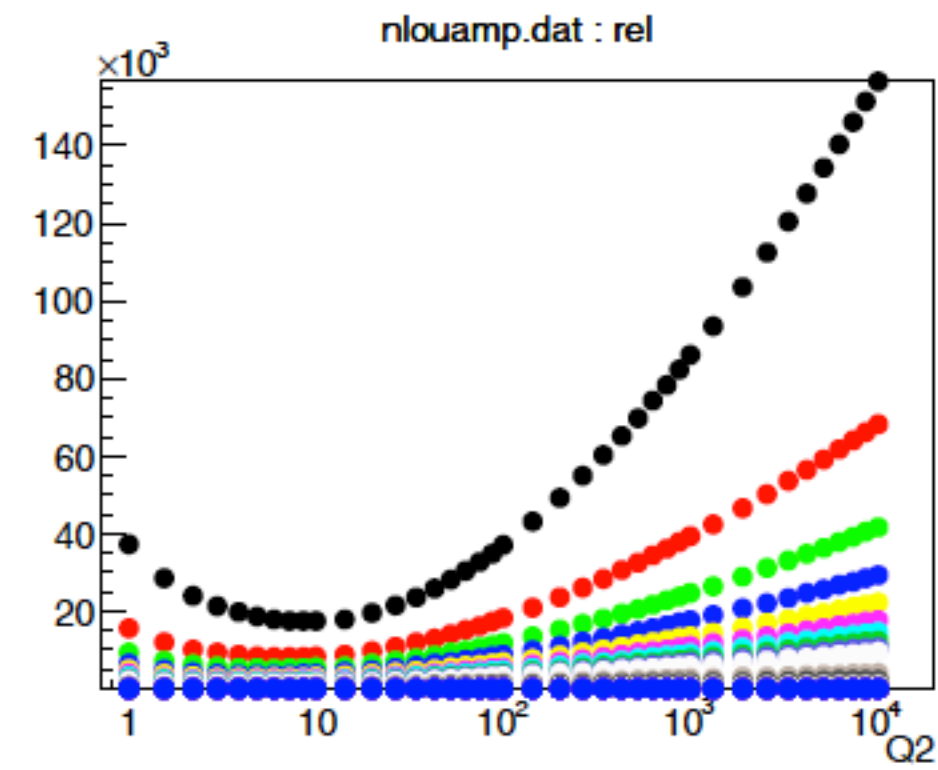
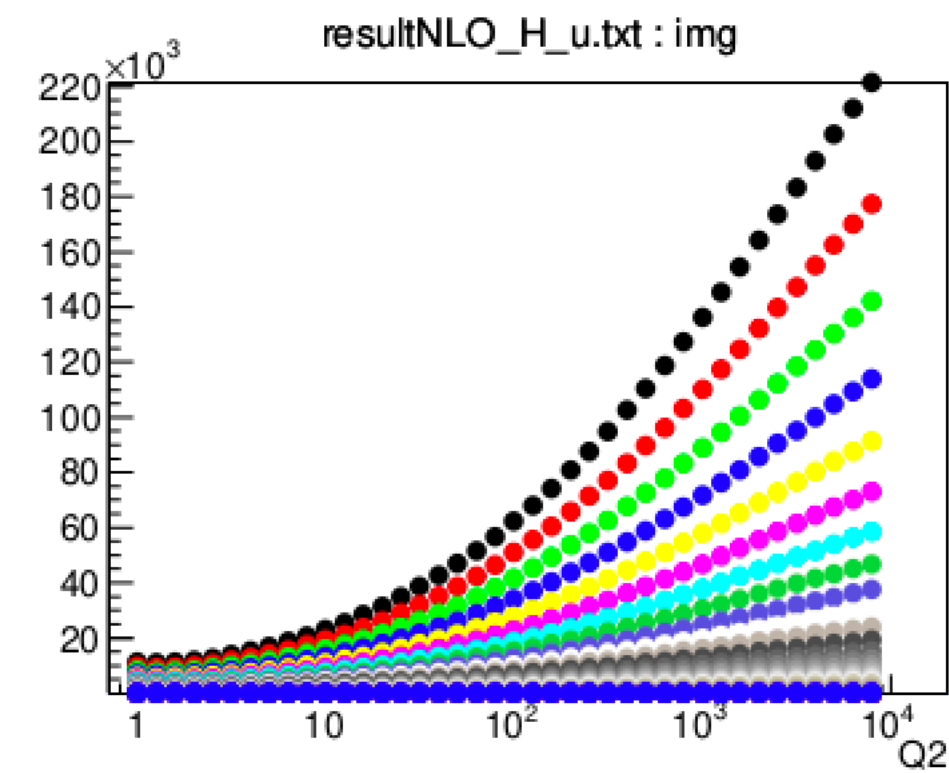
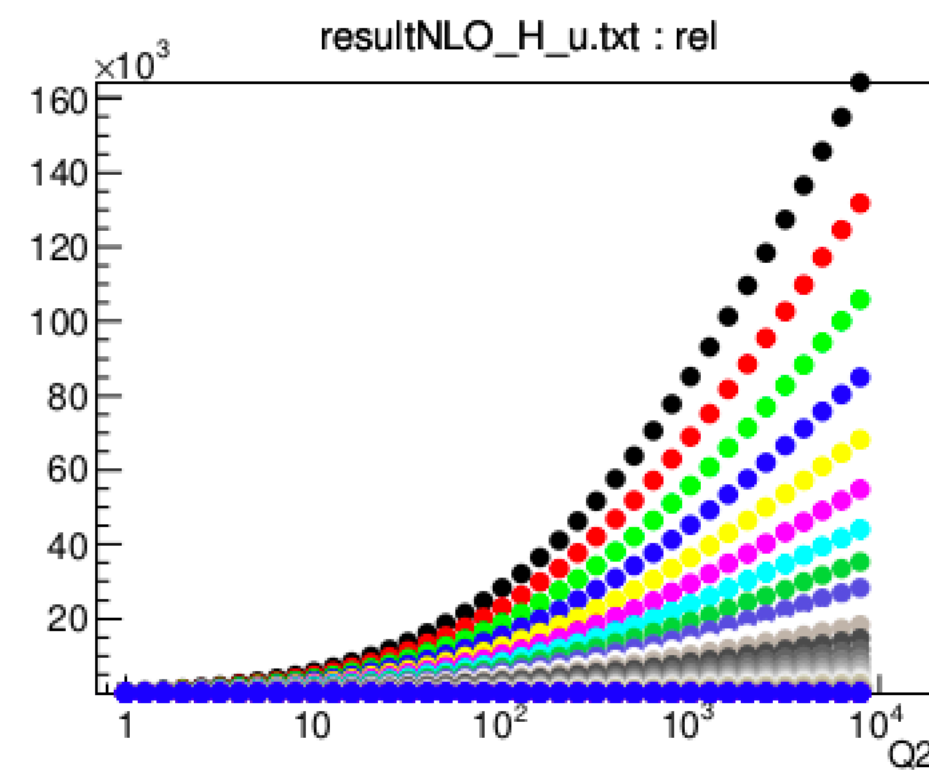
Up Ht LO



Partons

Milou

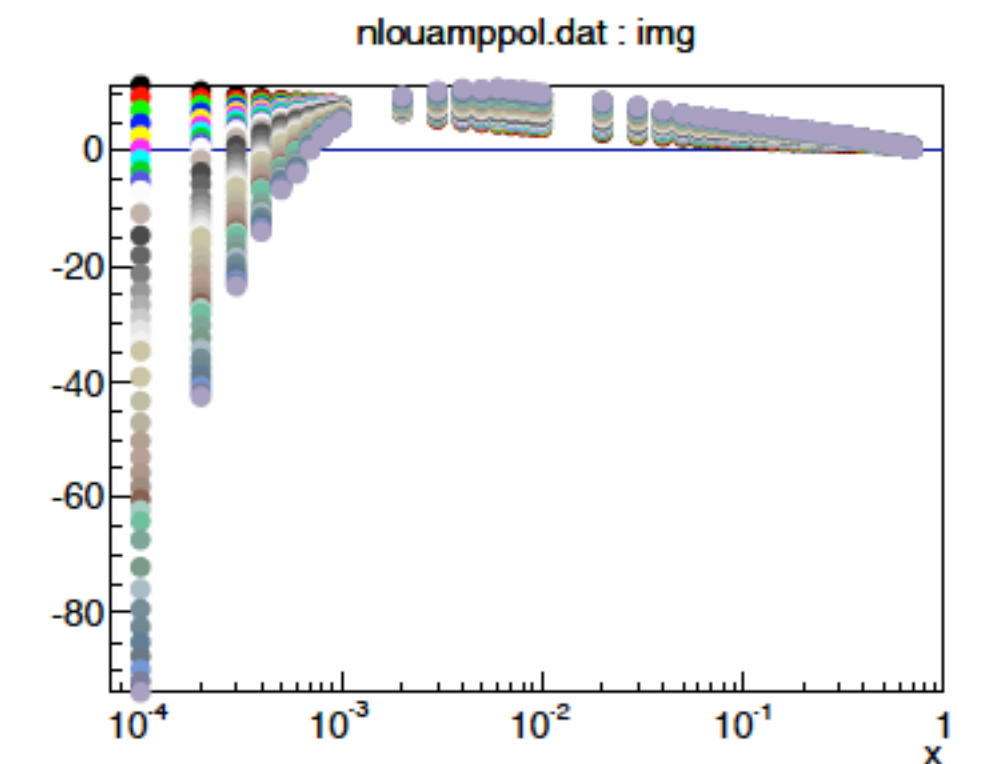
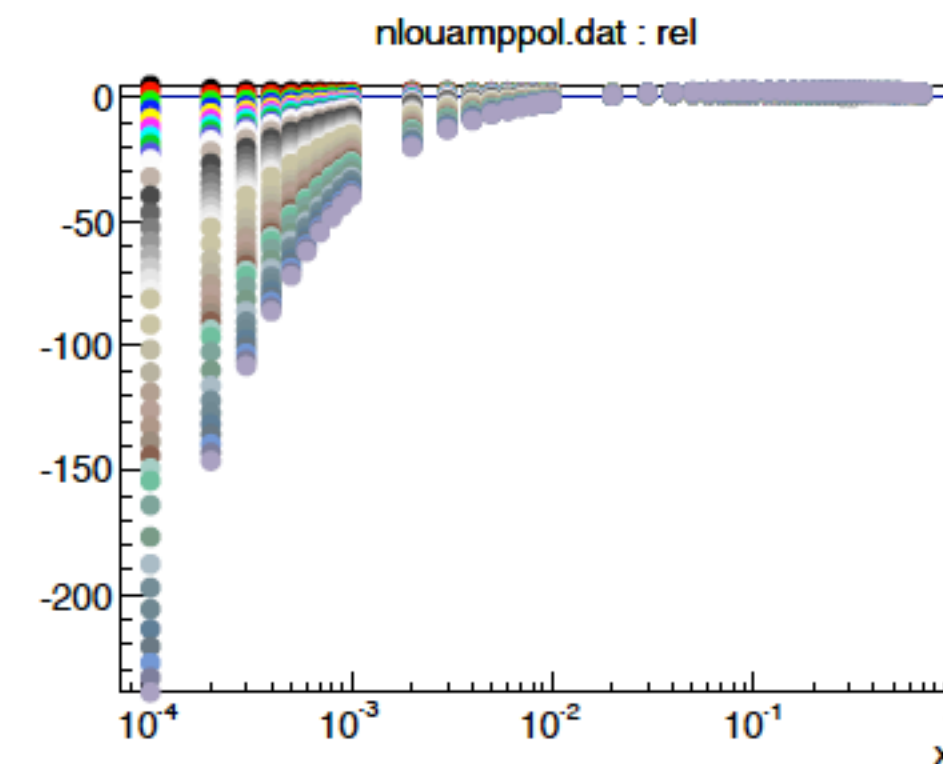
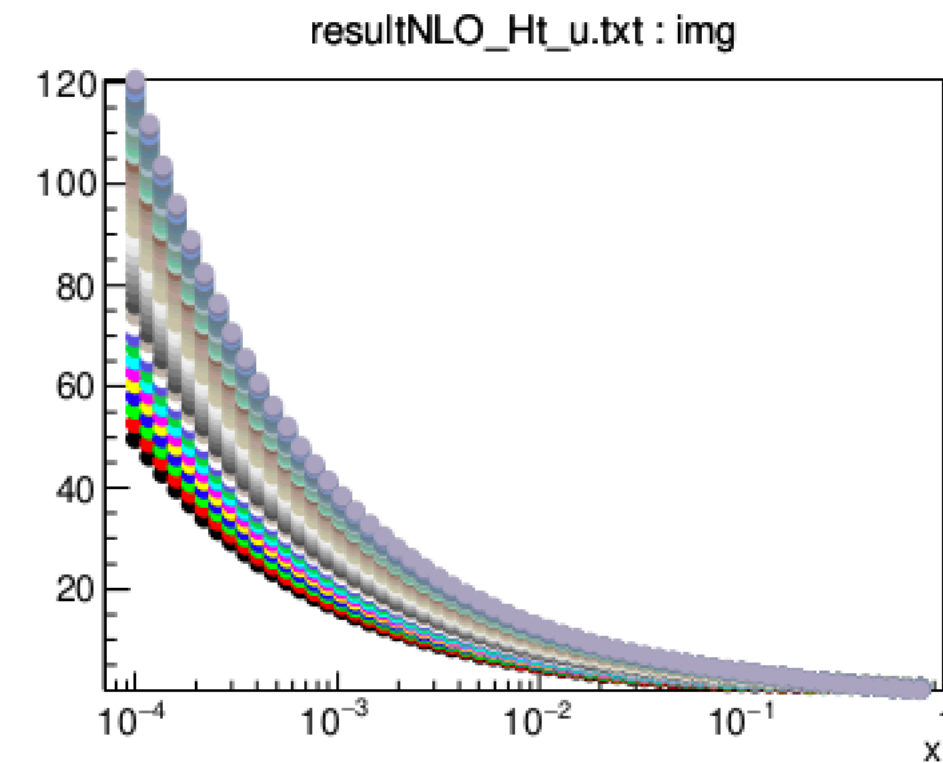
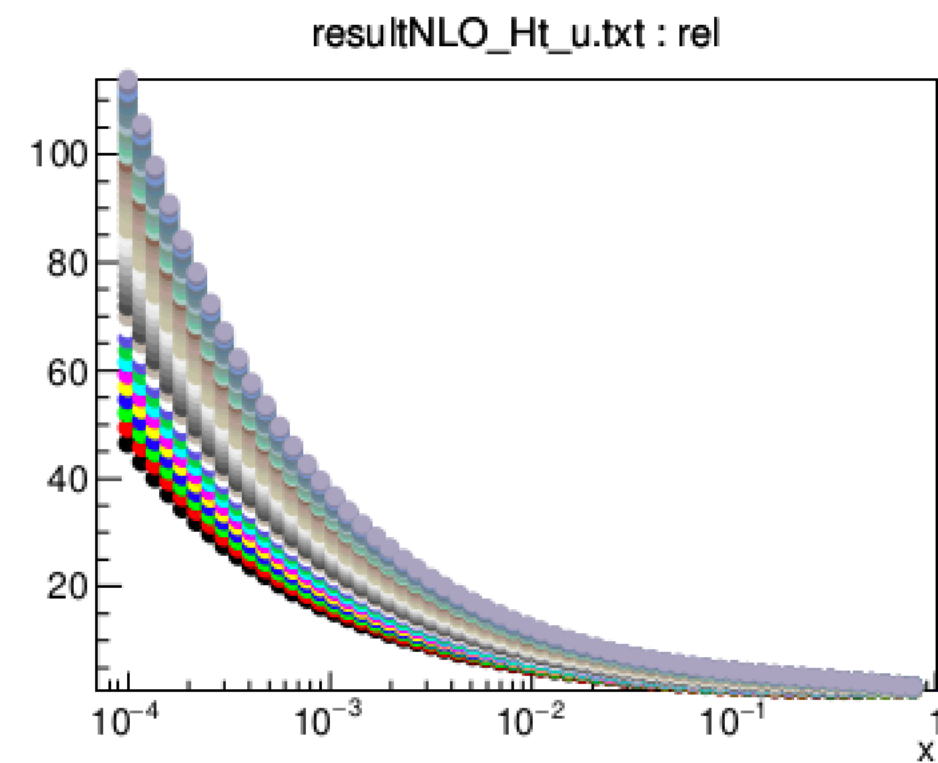
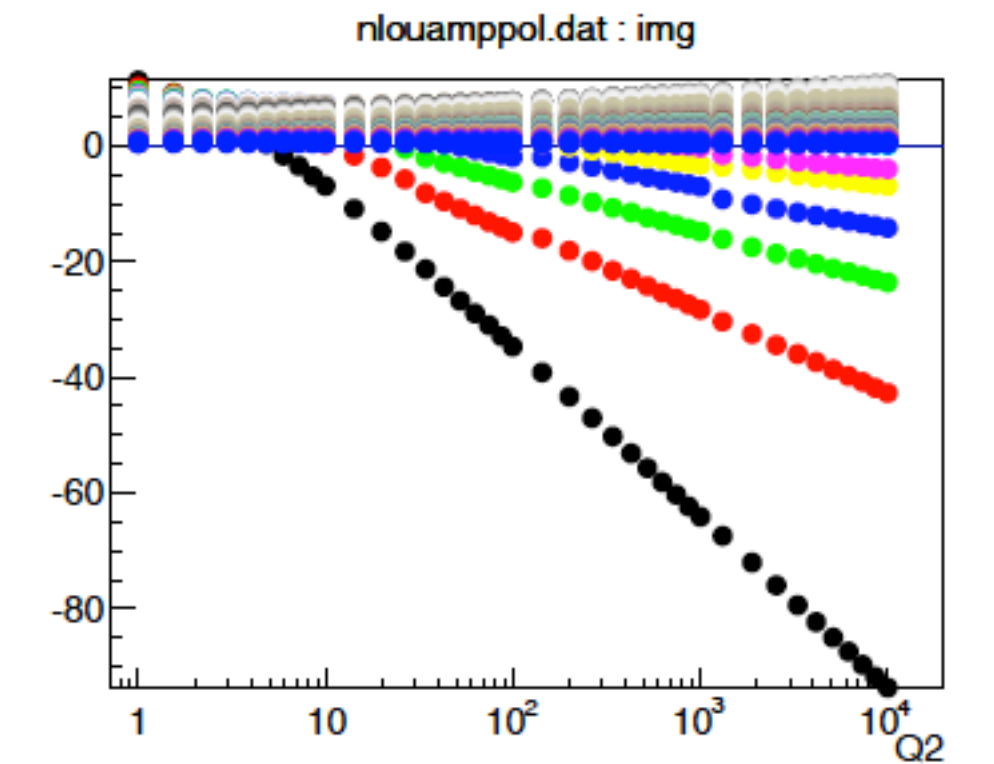
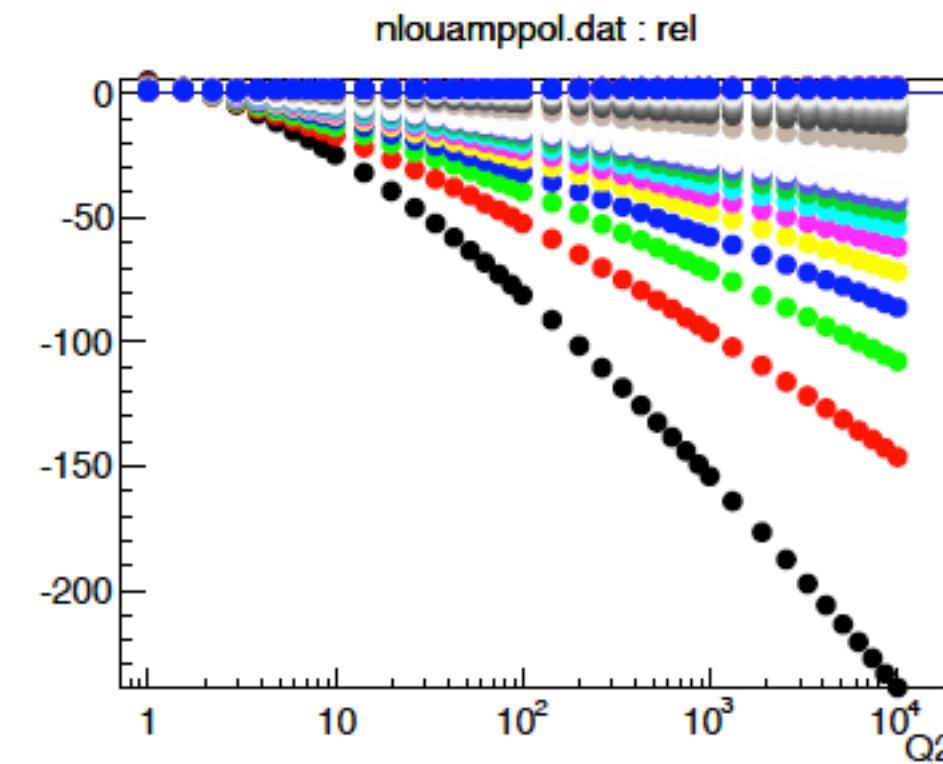
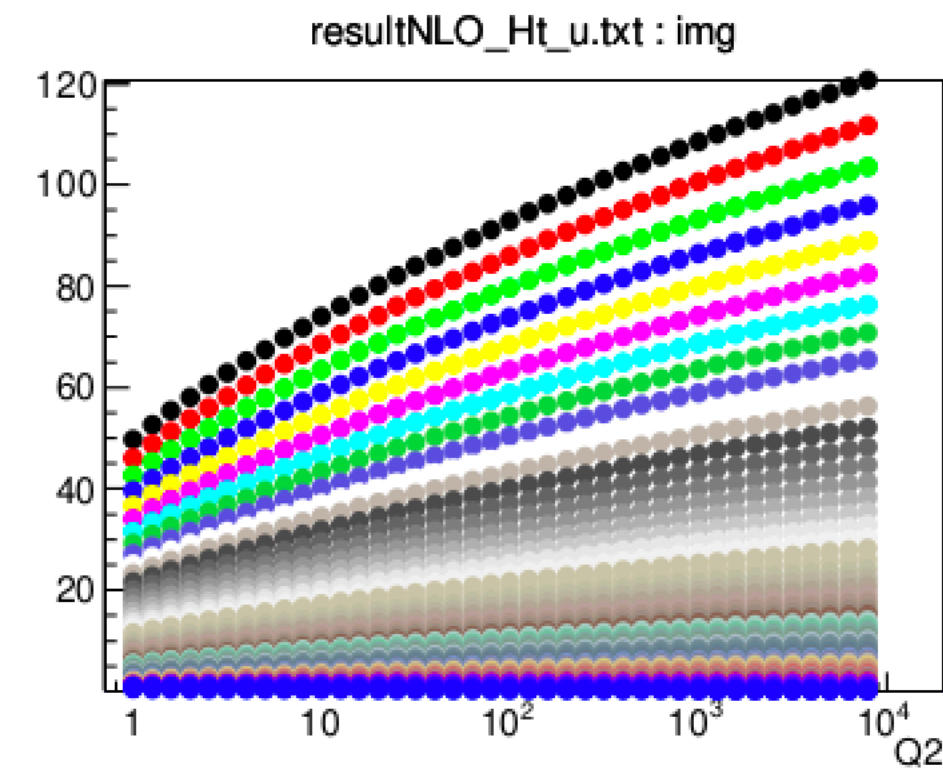
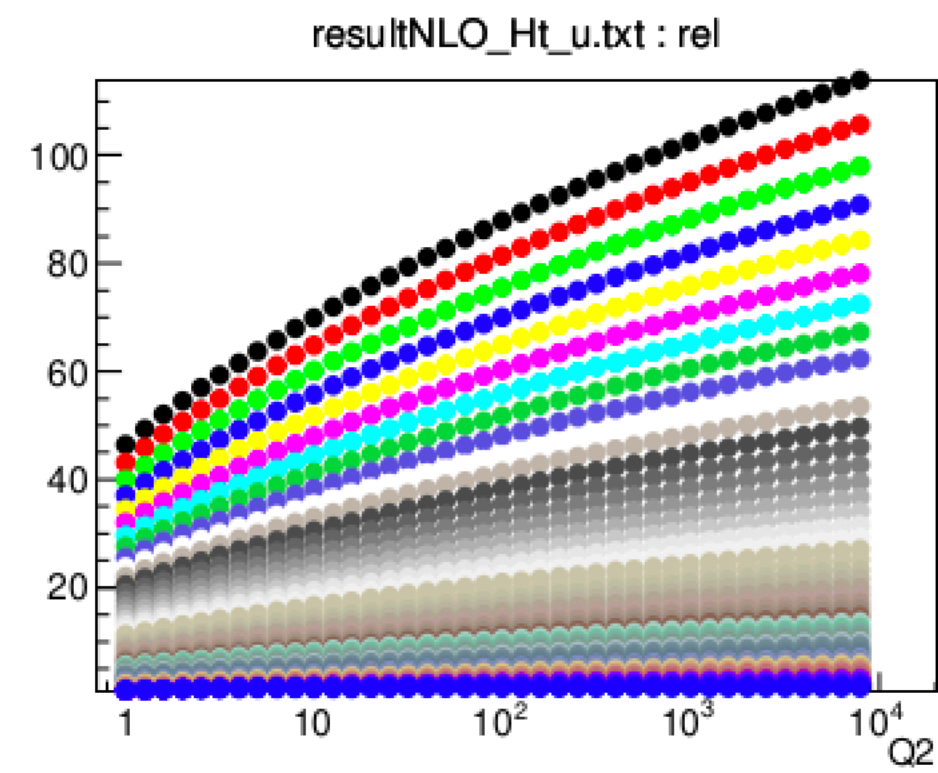
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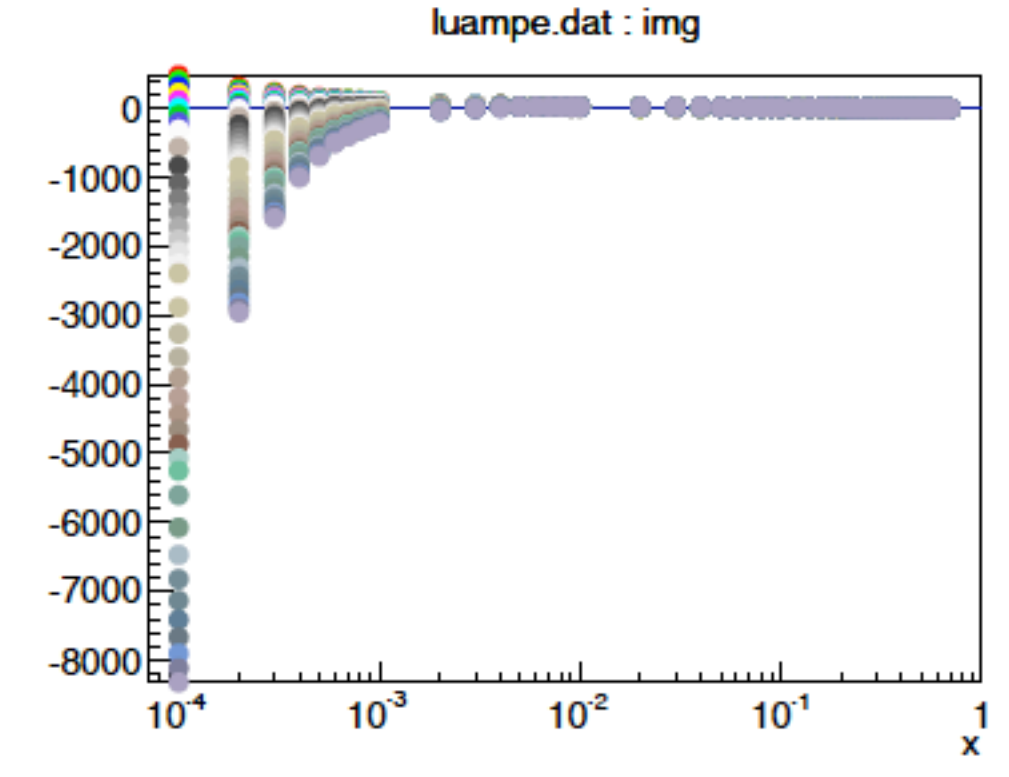
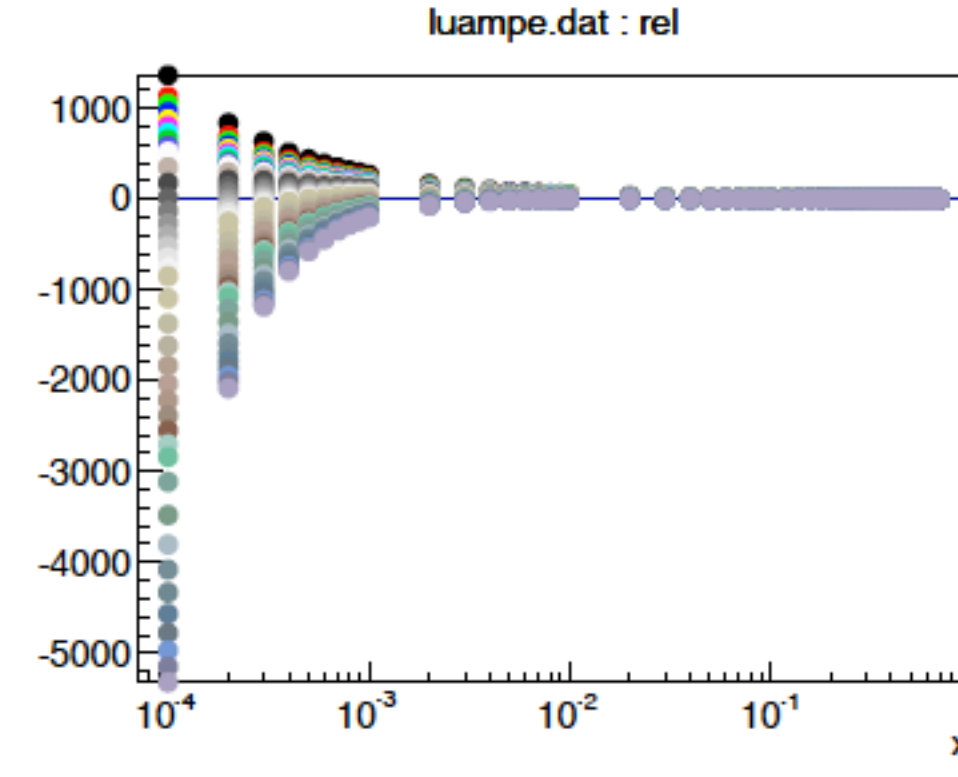
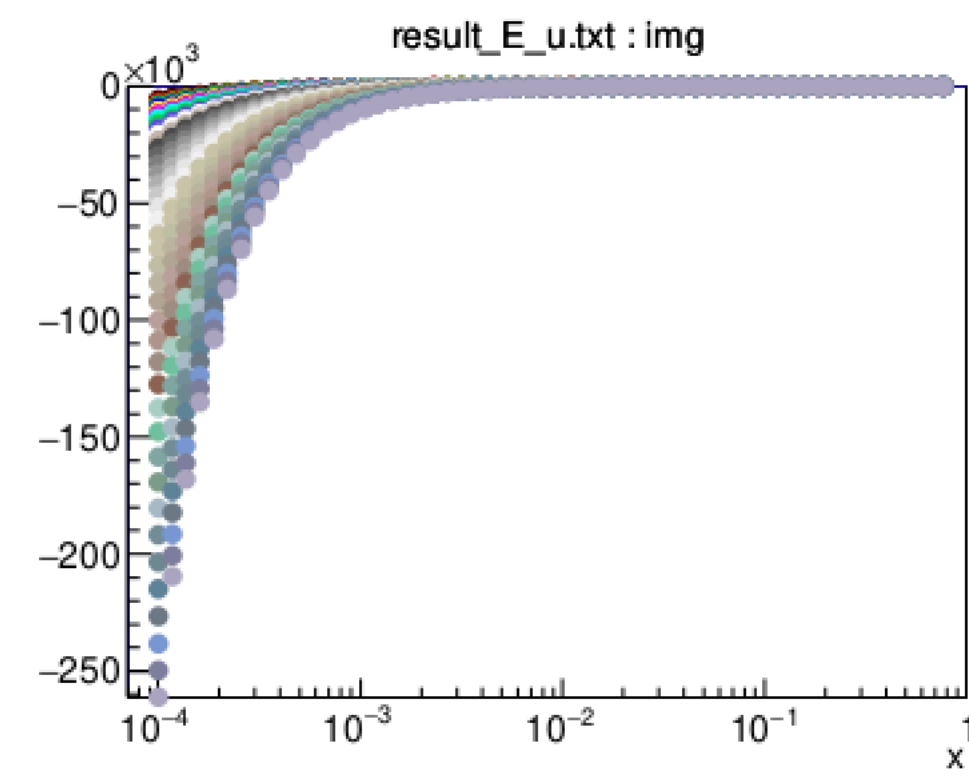
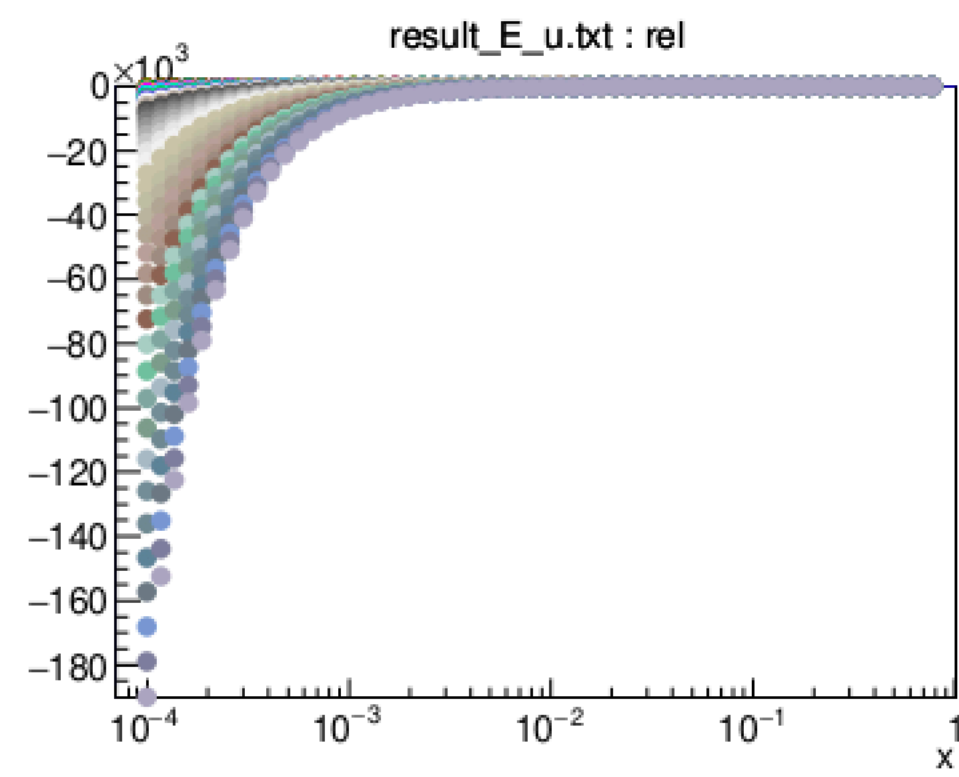
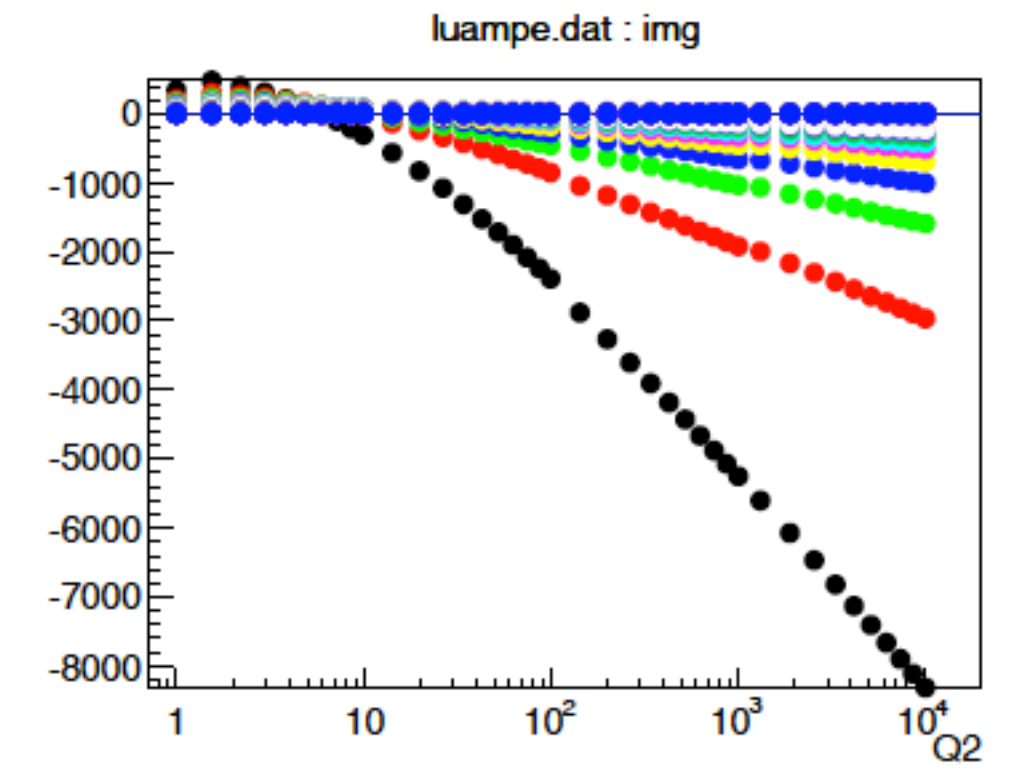
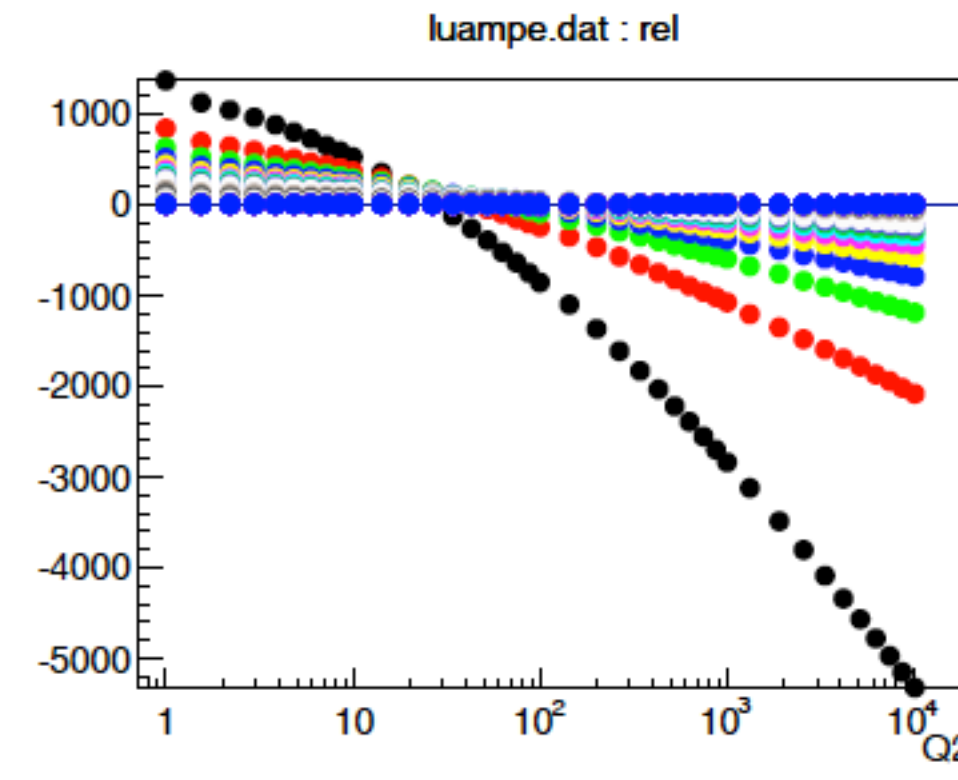
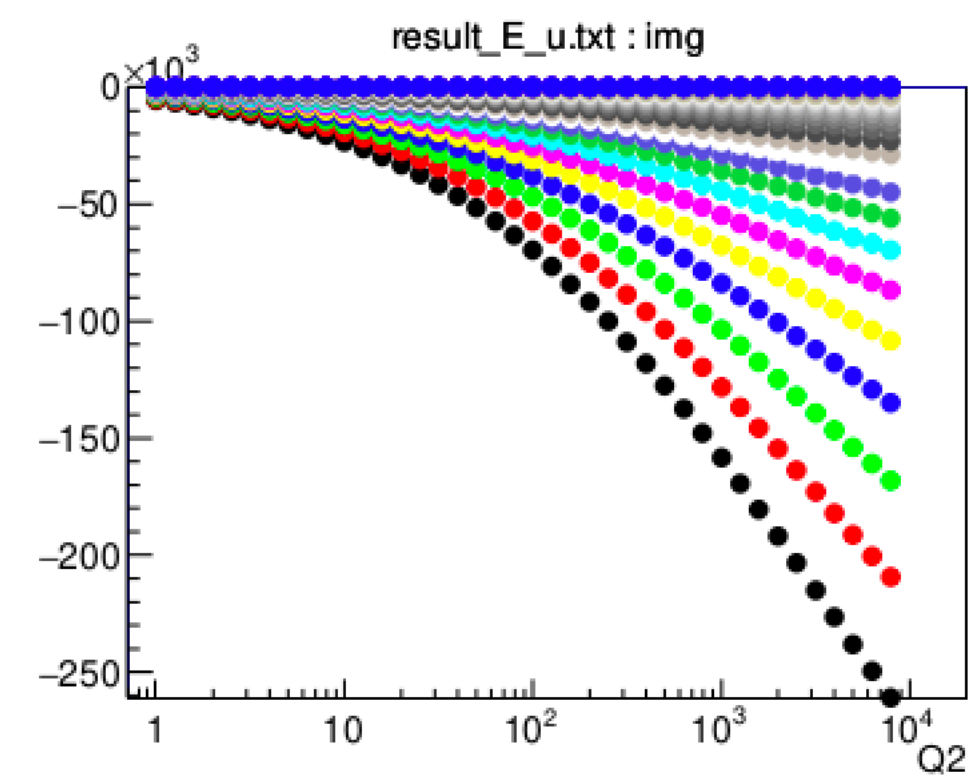
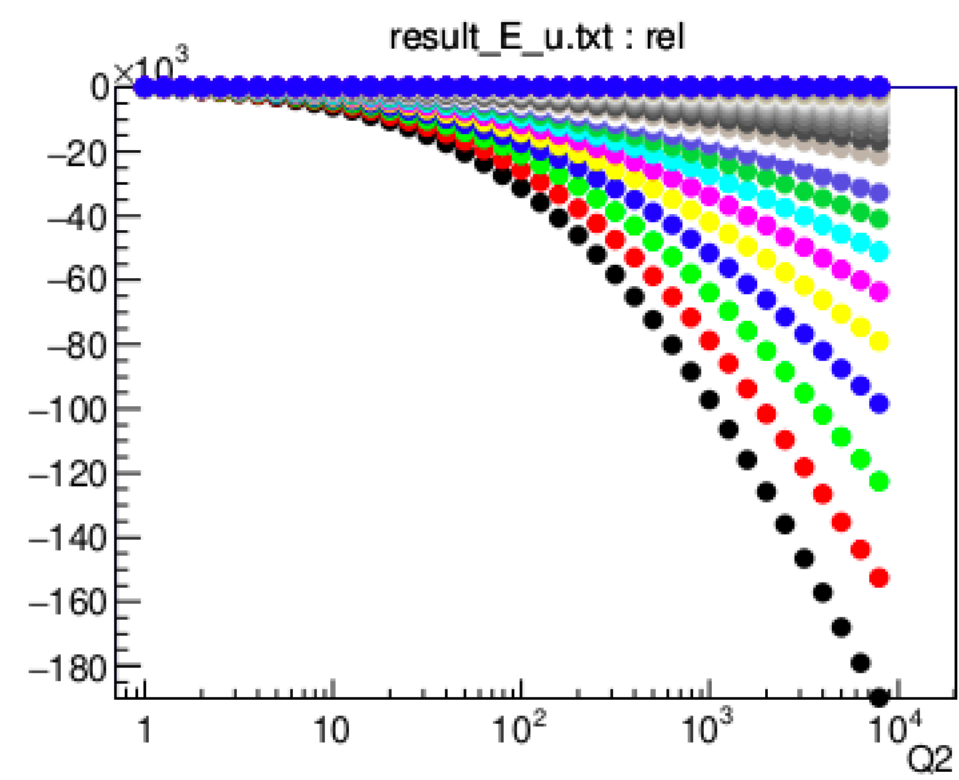
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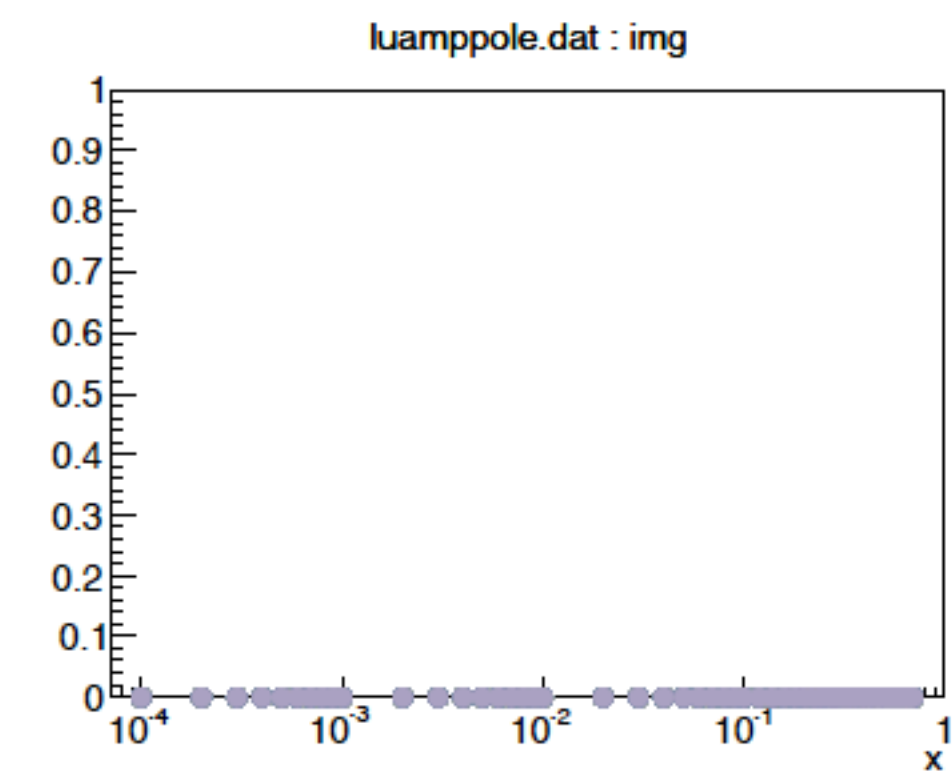
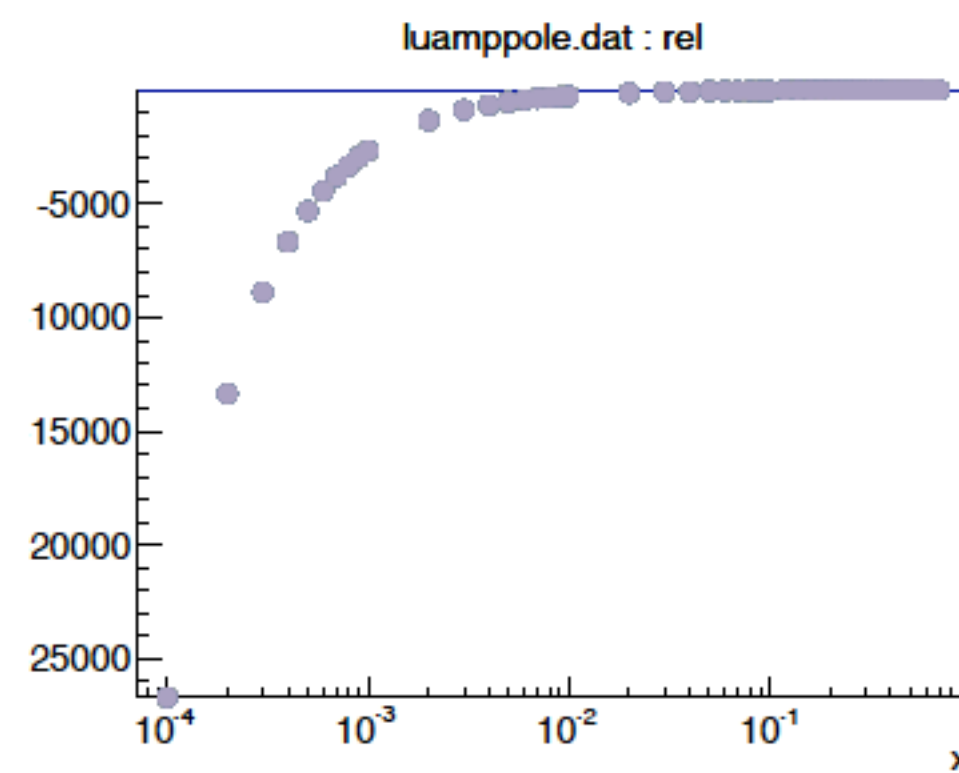
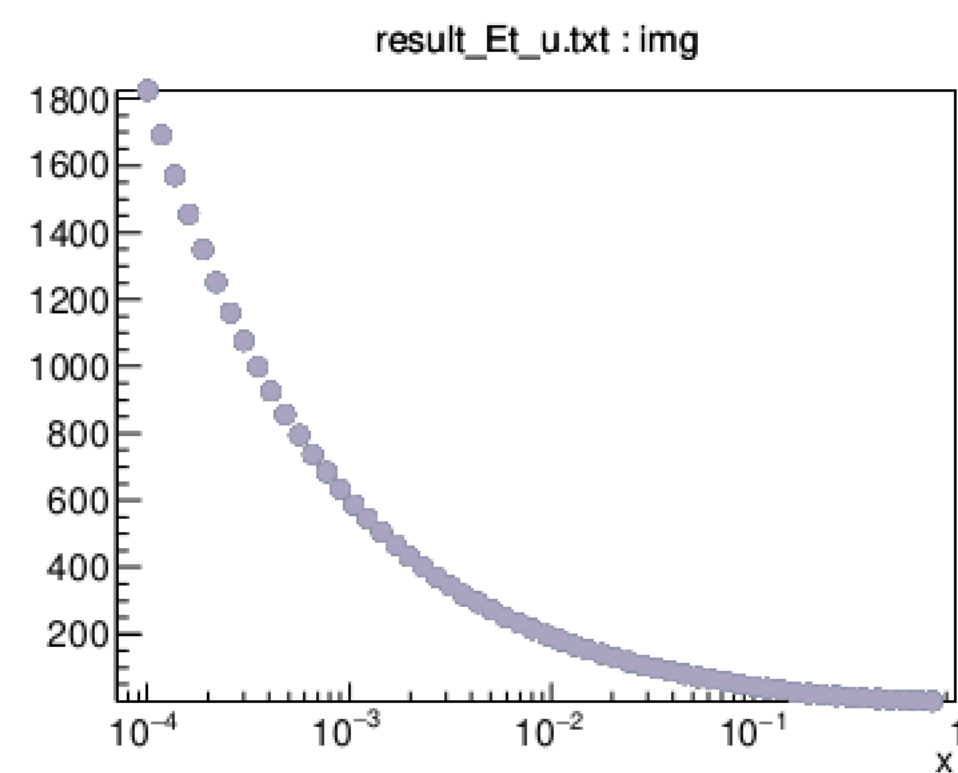
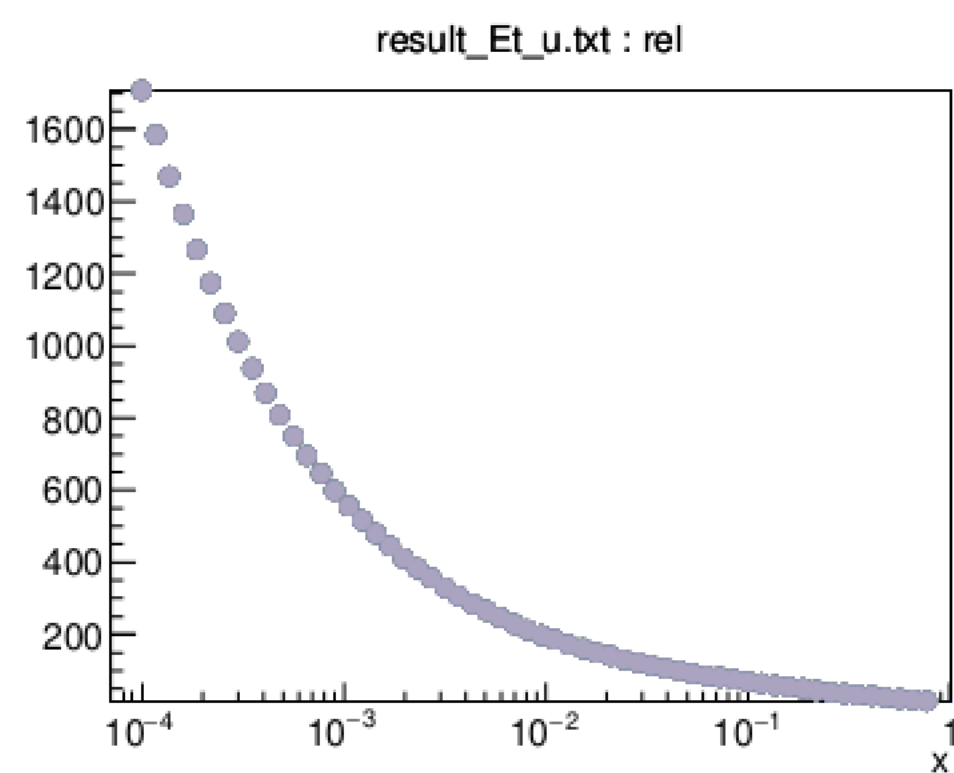
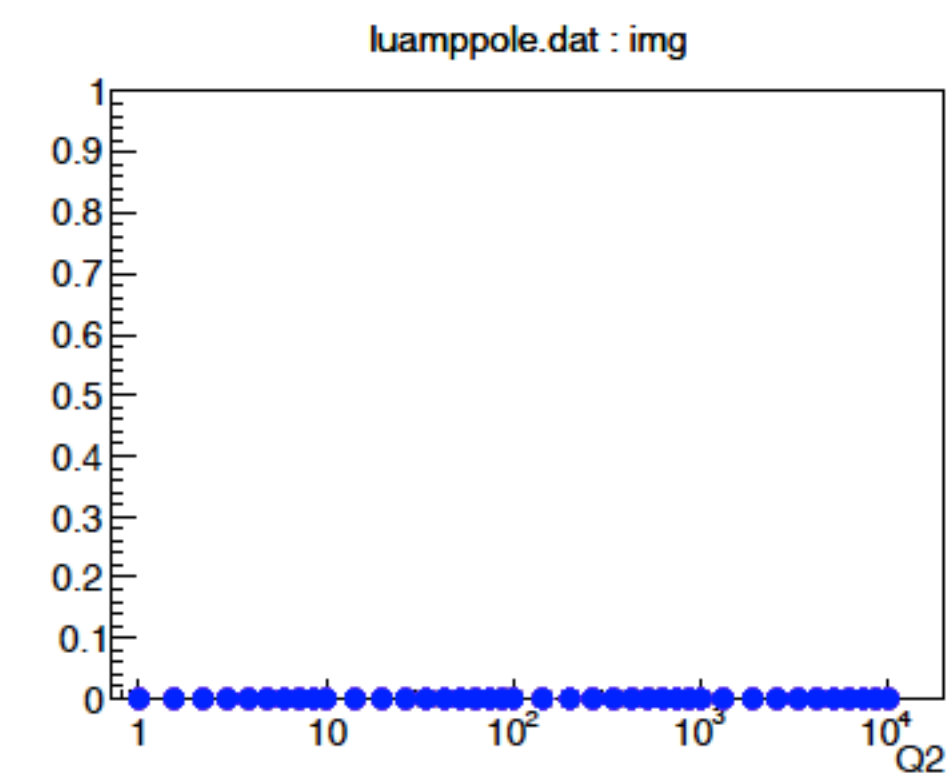
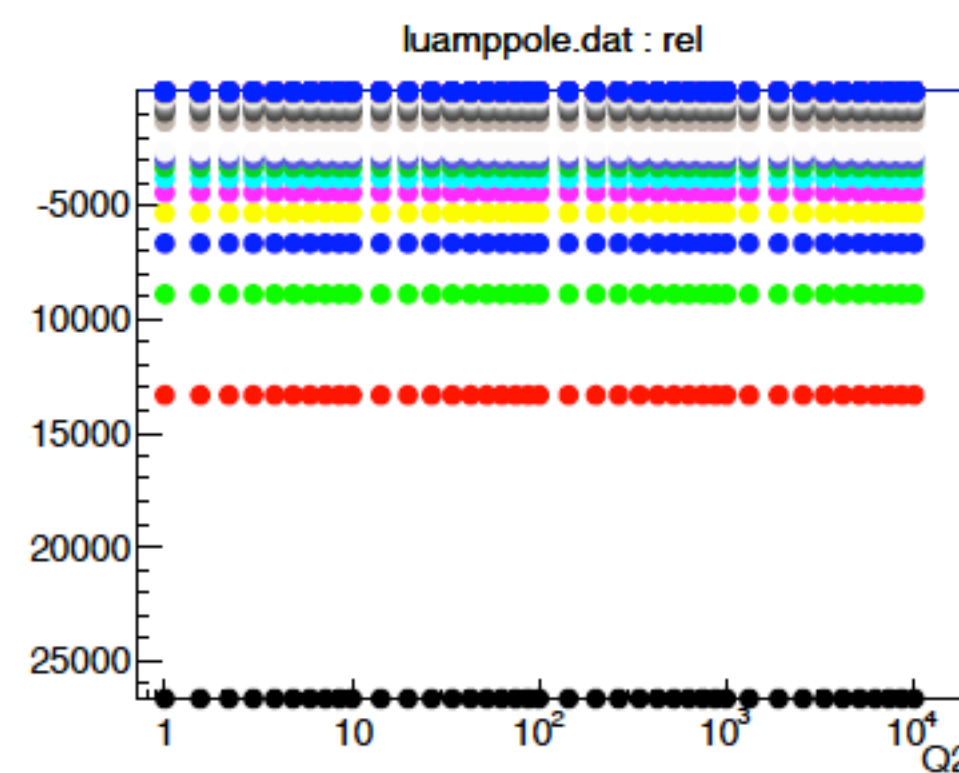
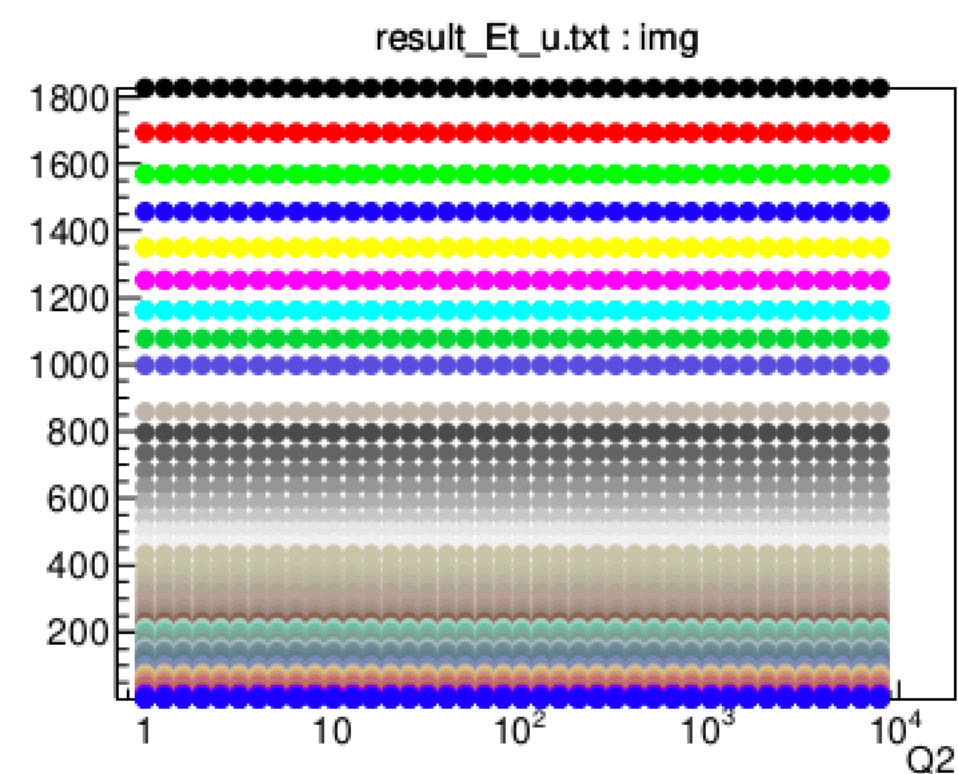
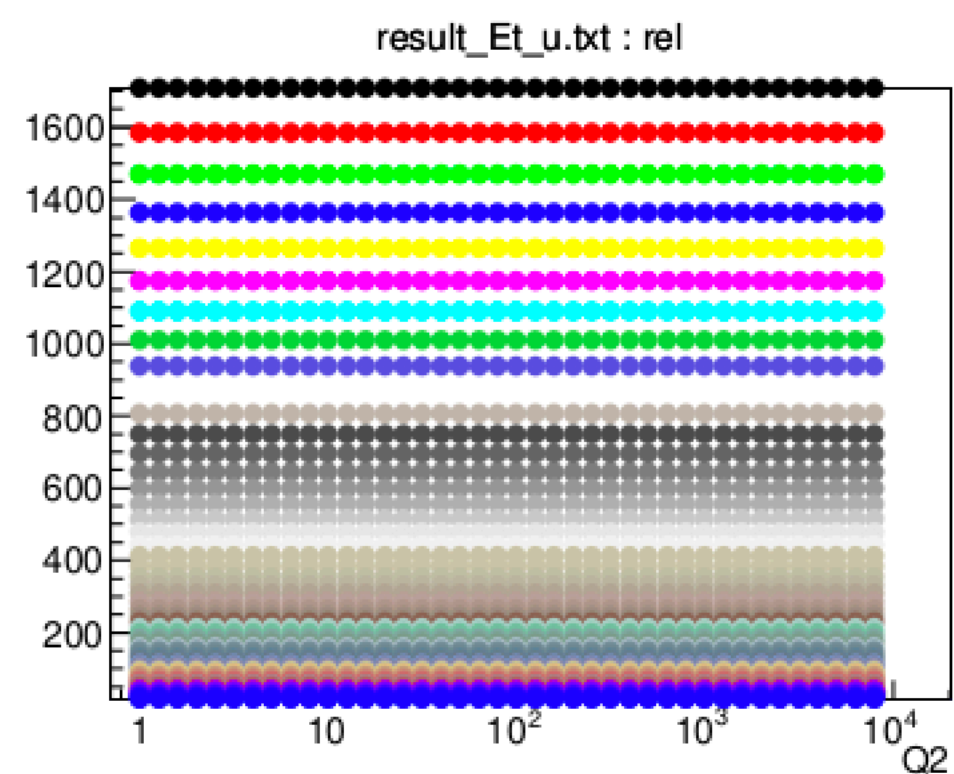
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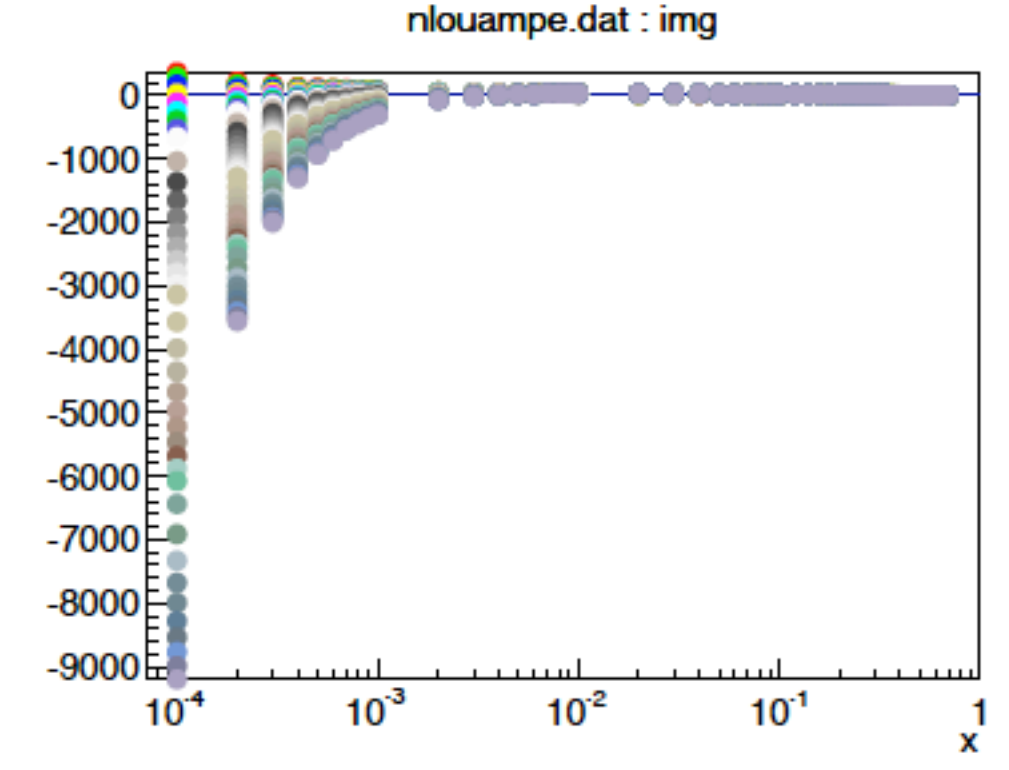
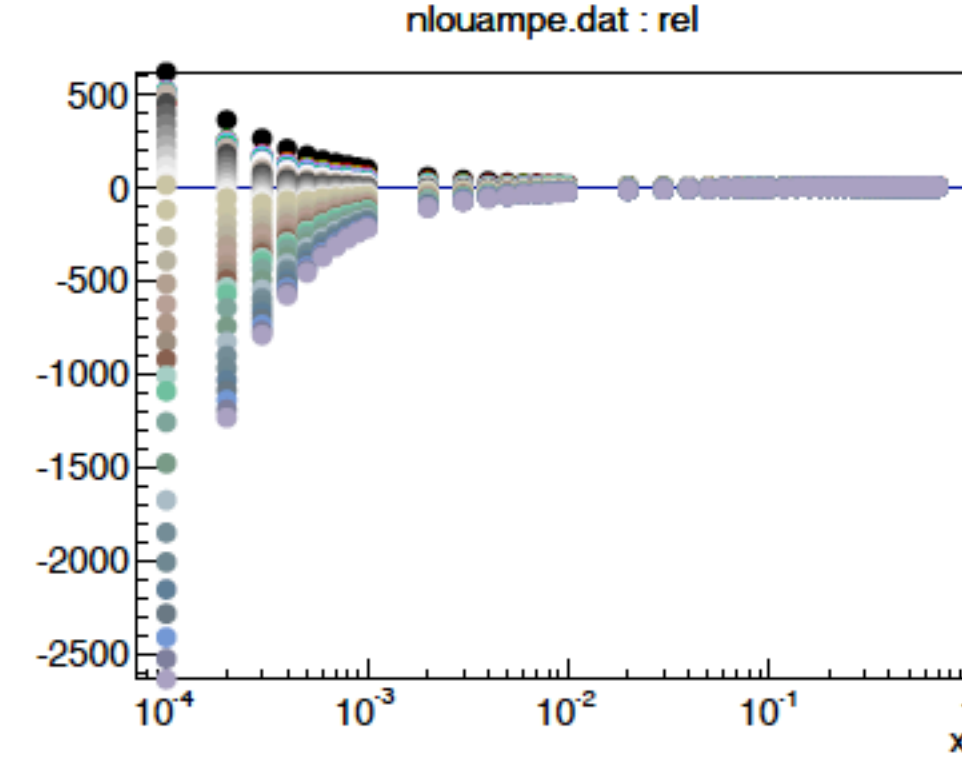
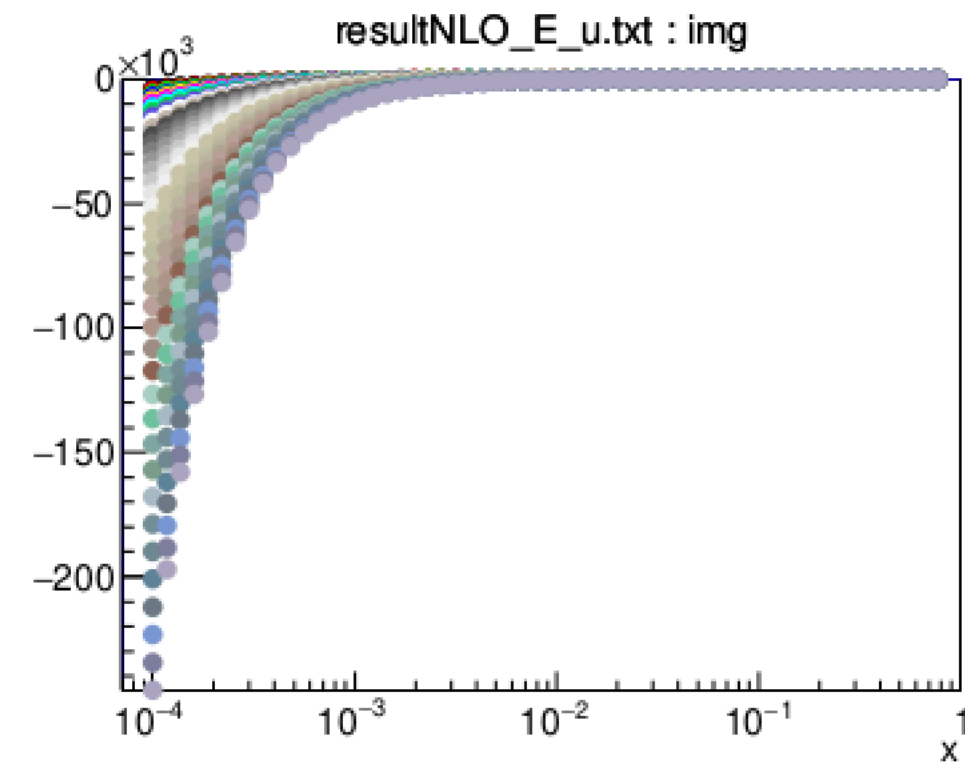
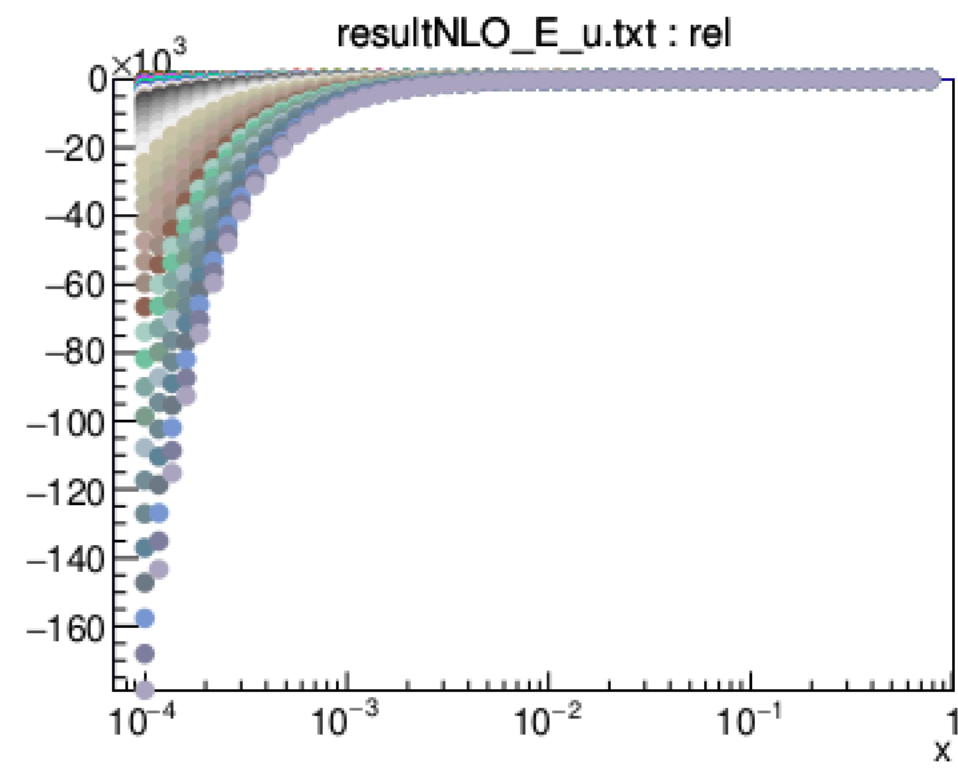
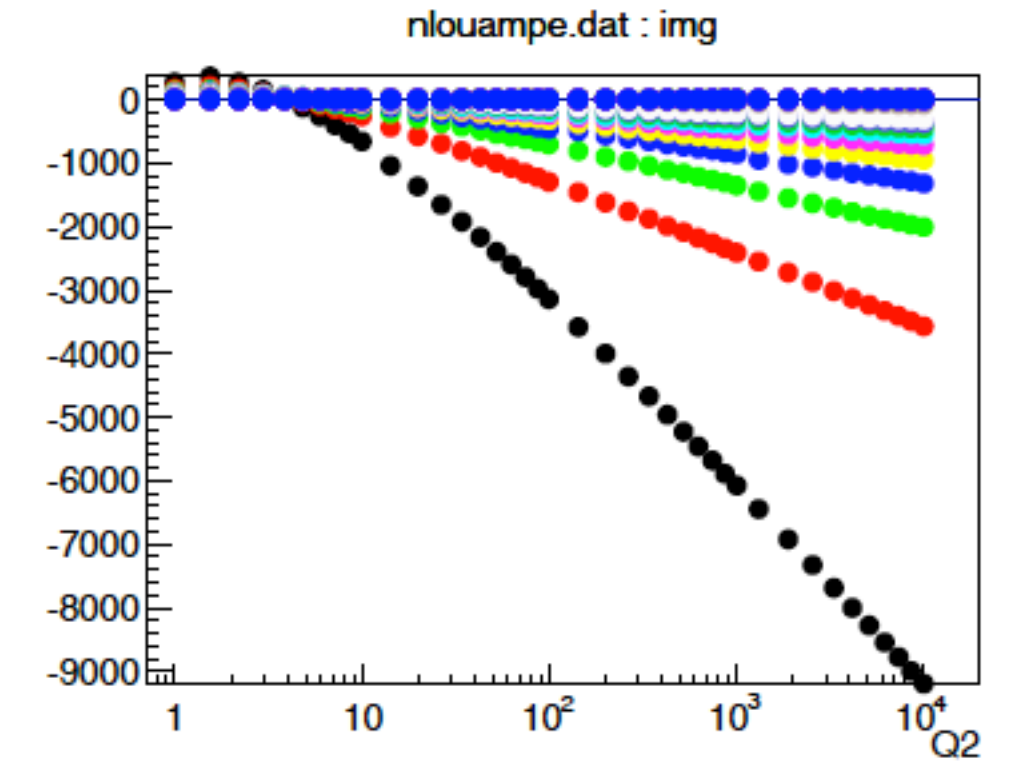
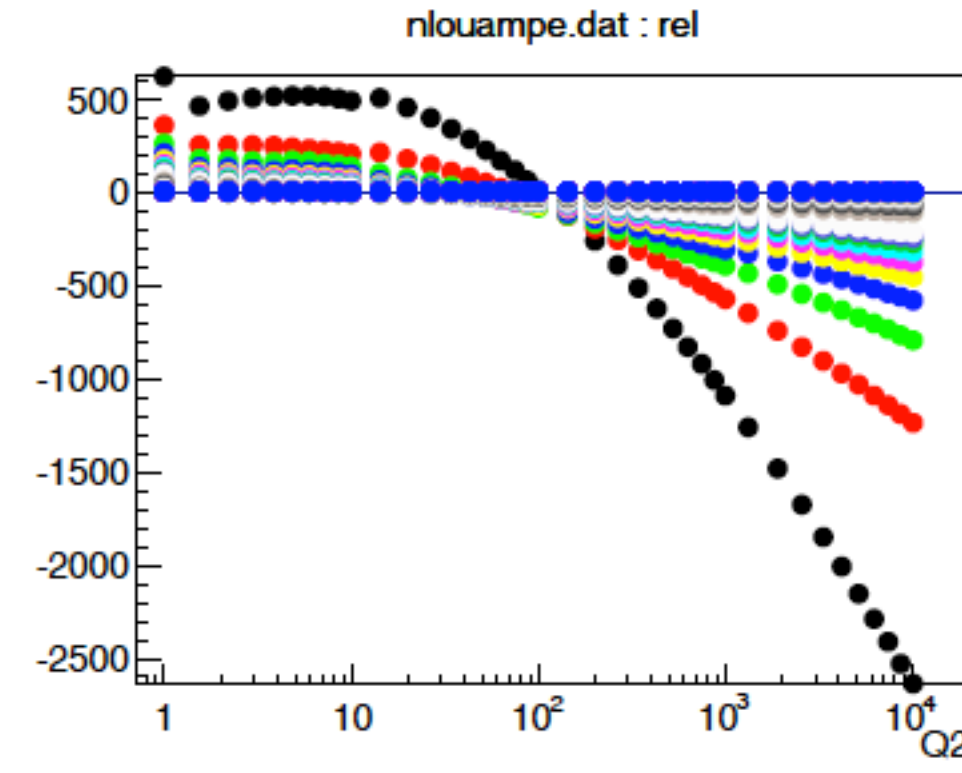
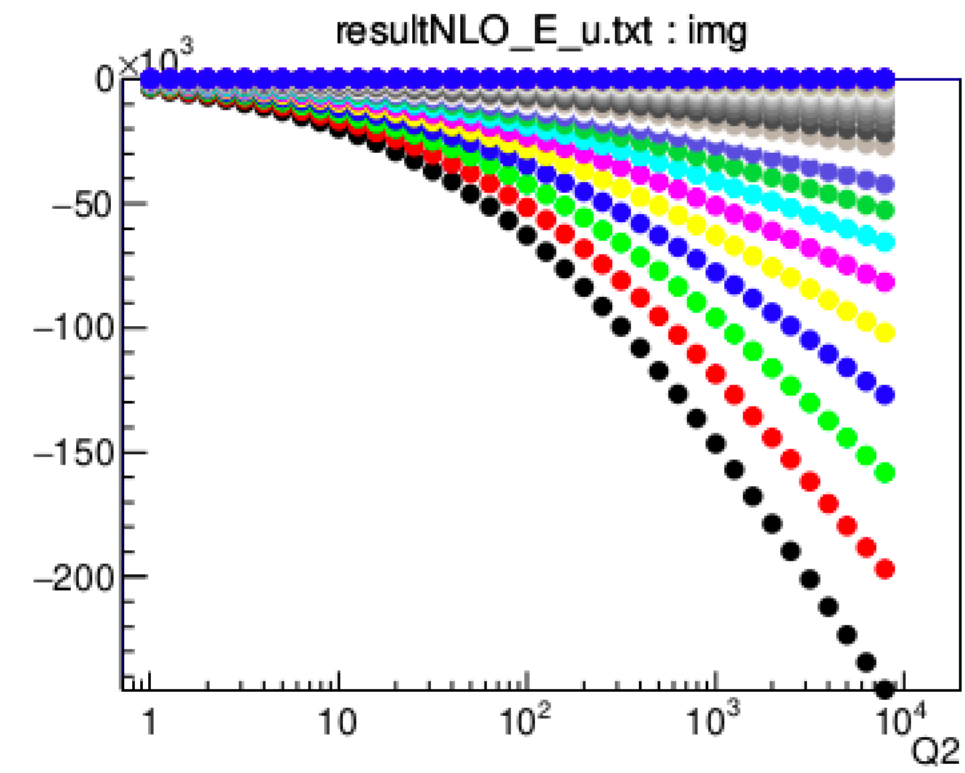
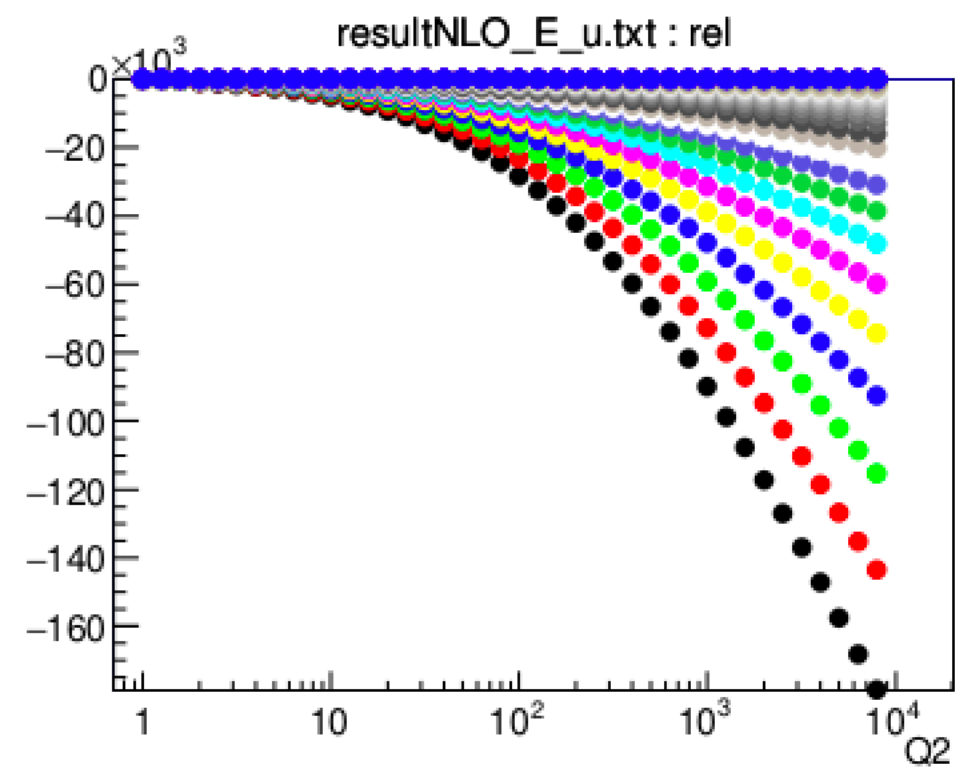
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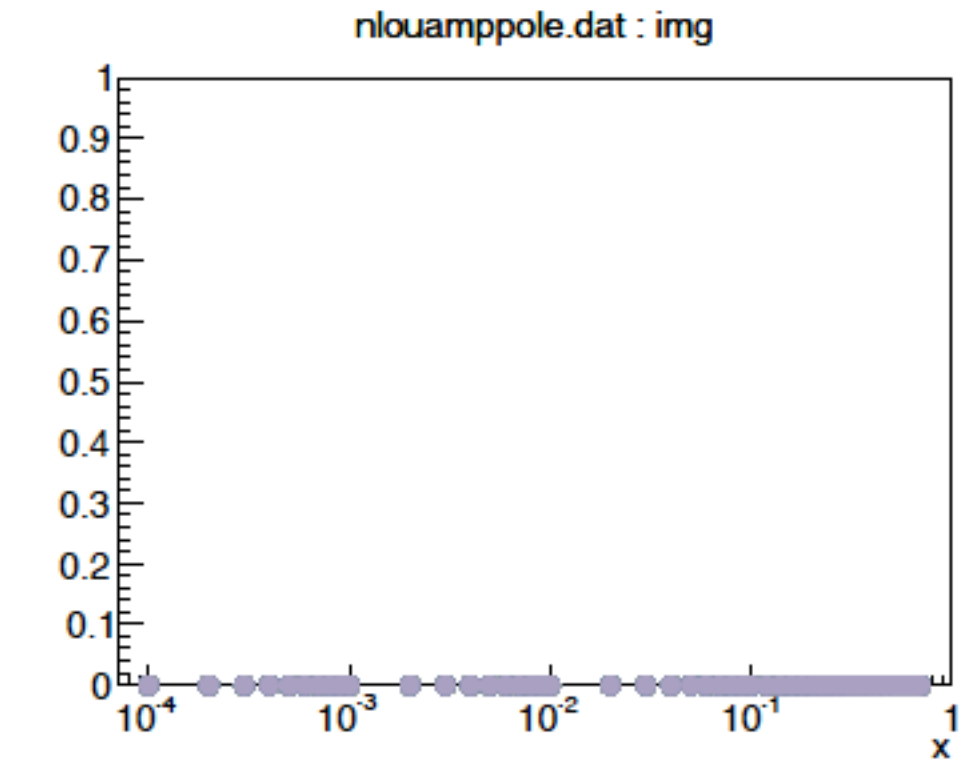
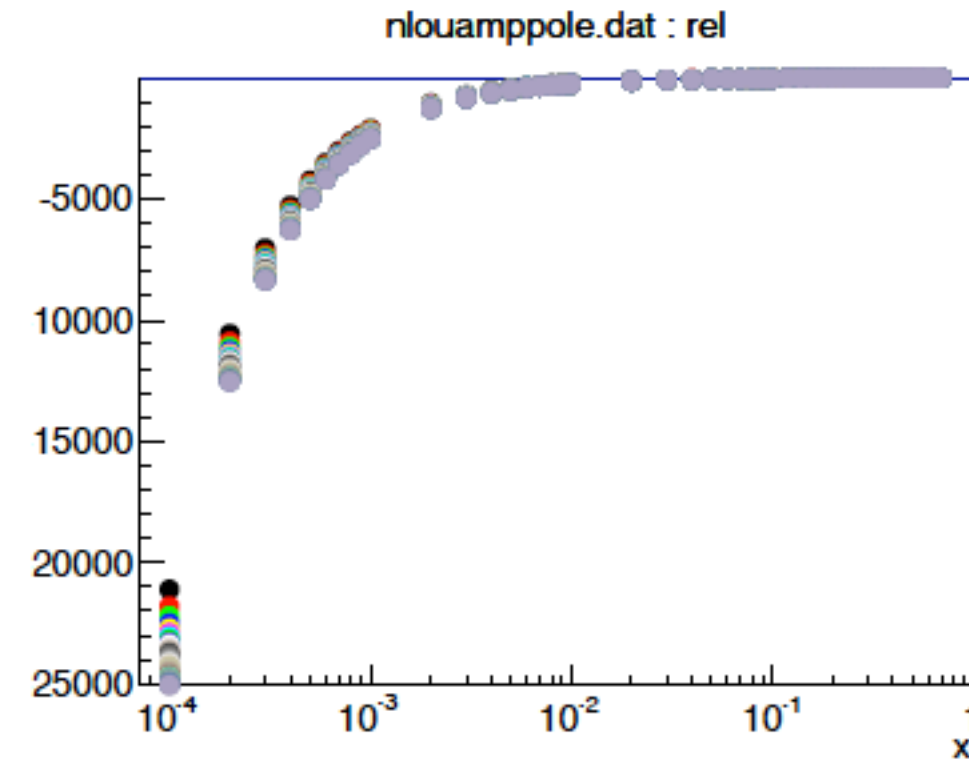
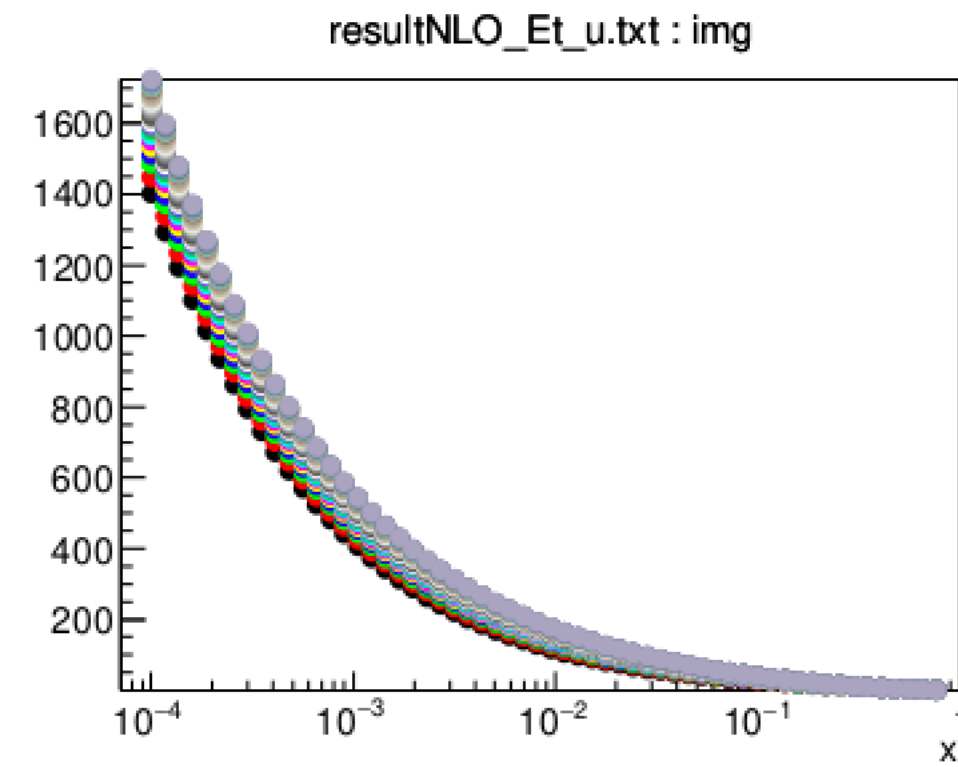
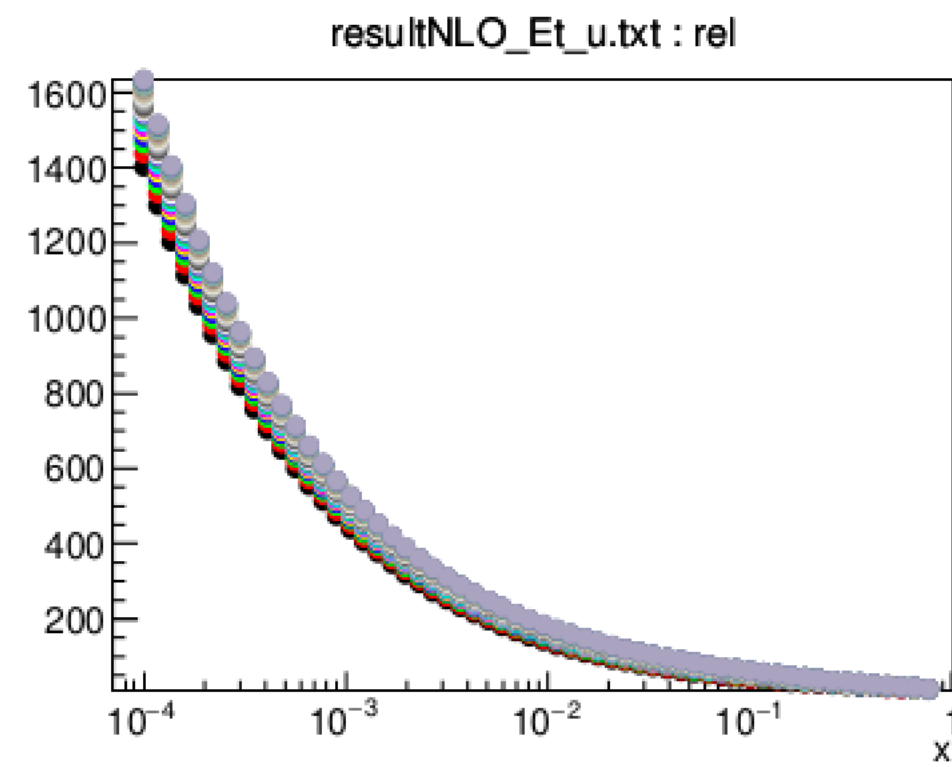
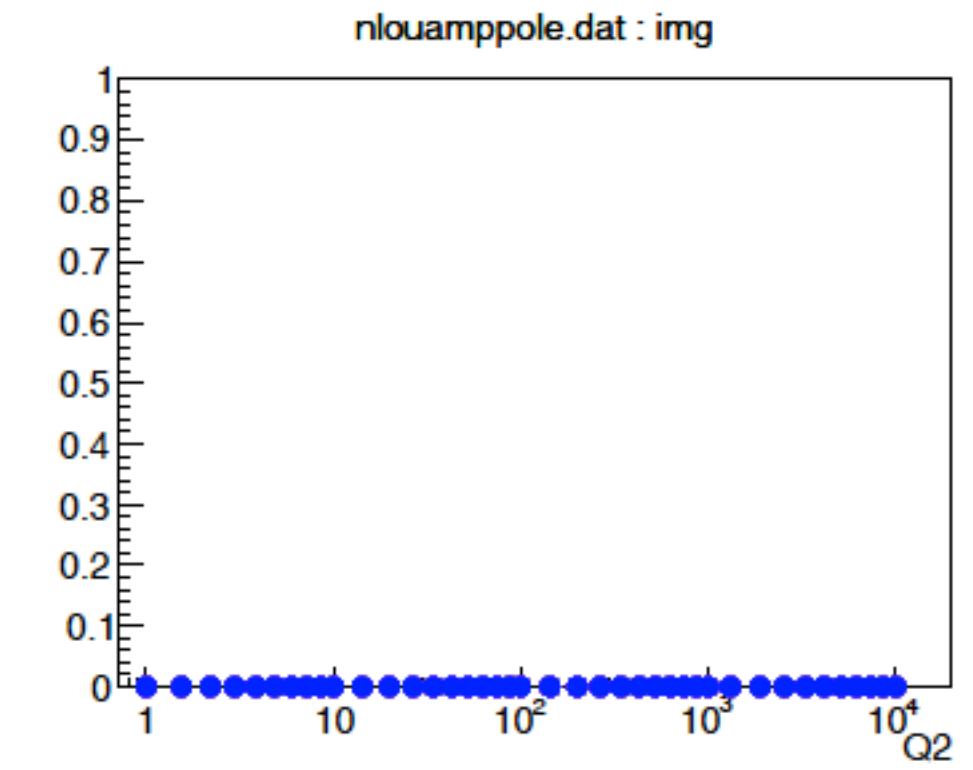
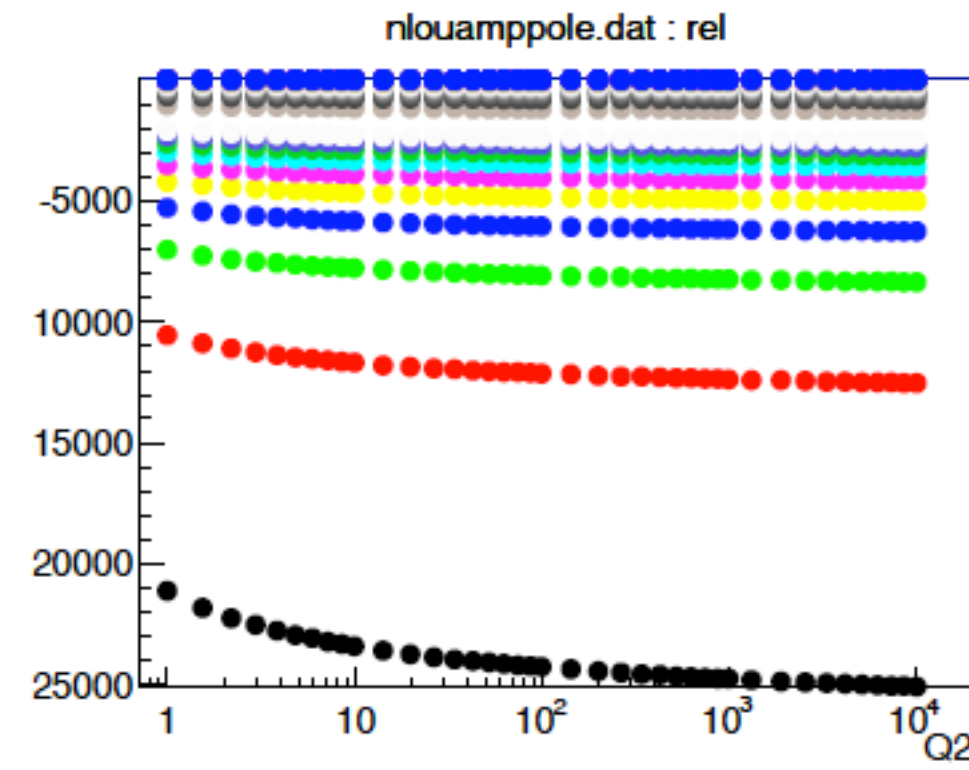
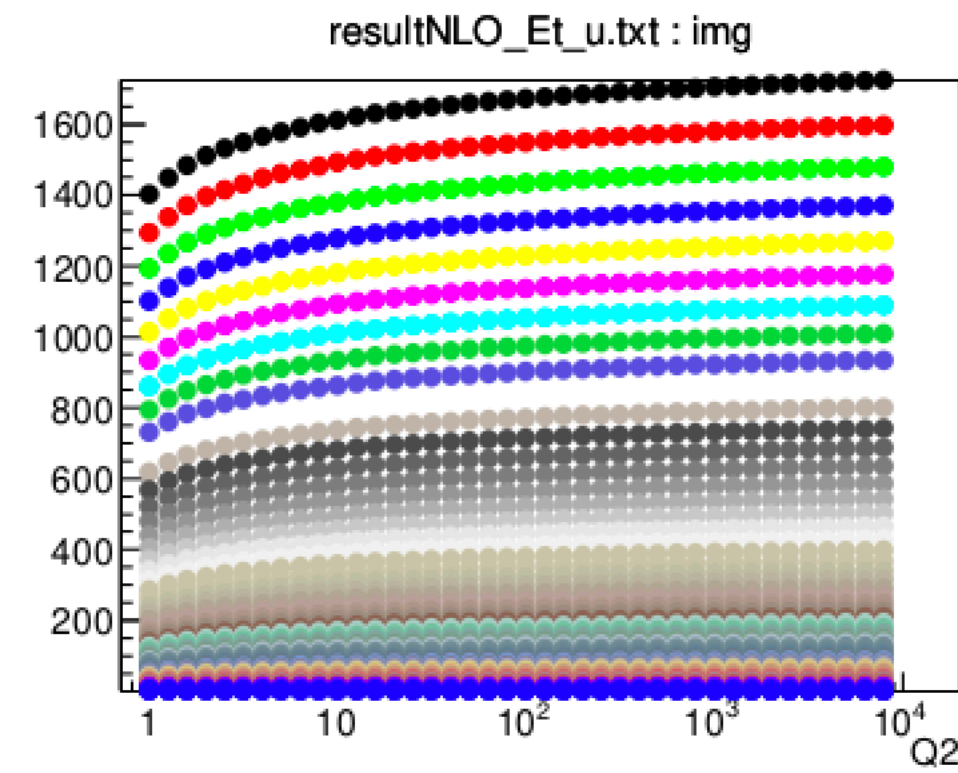
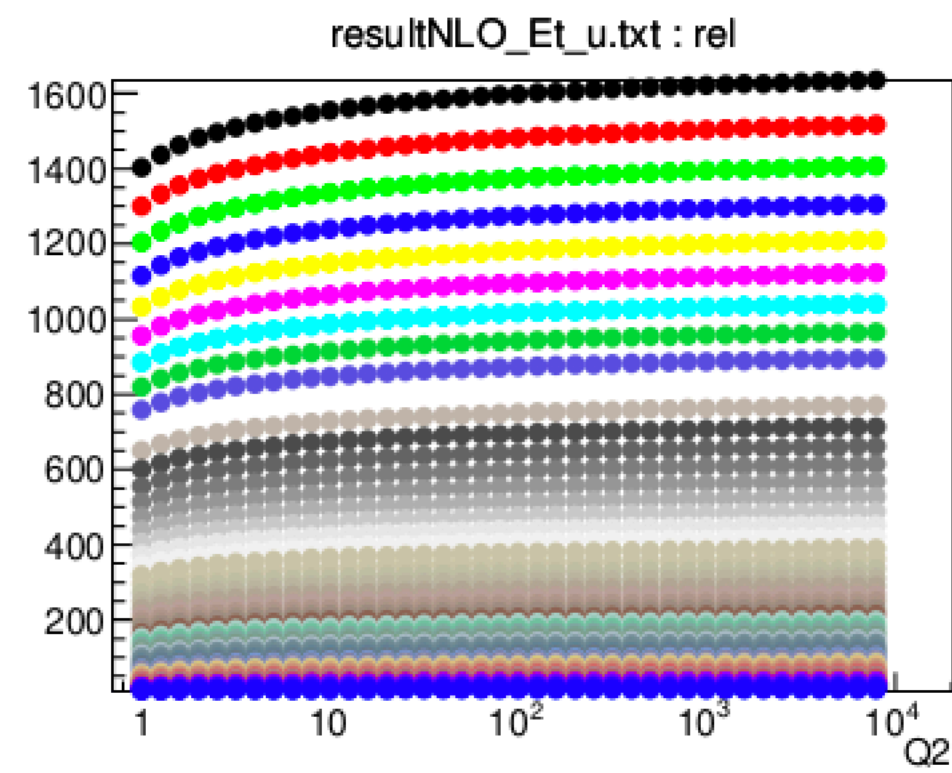
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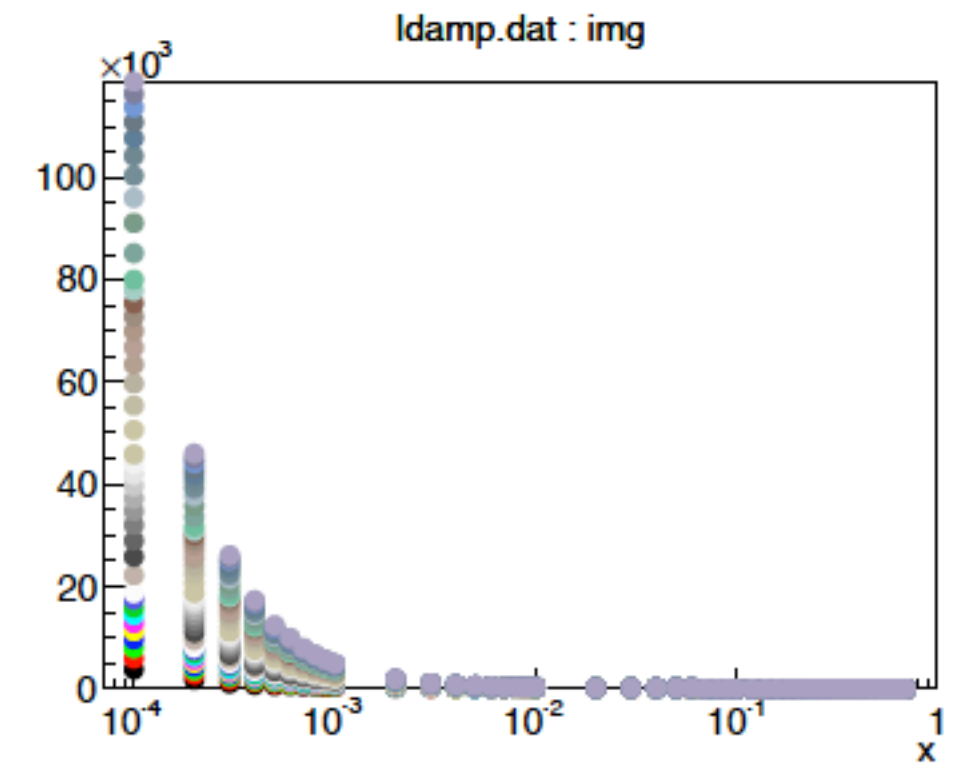
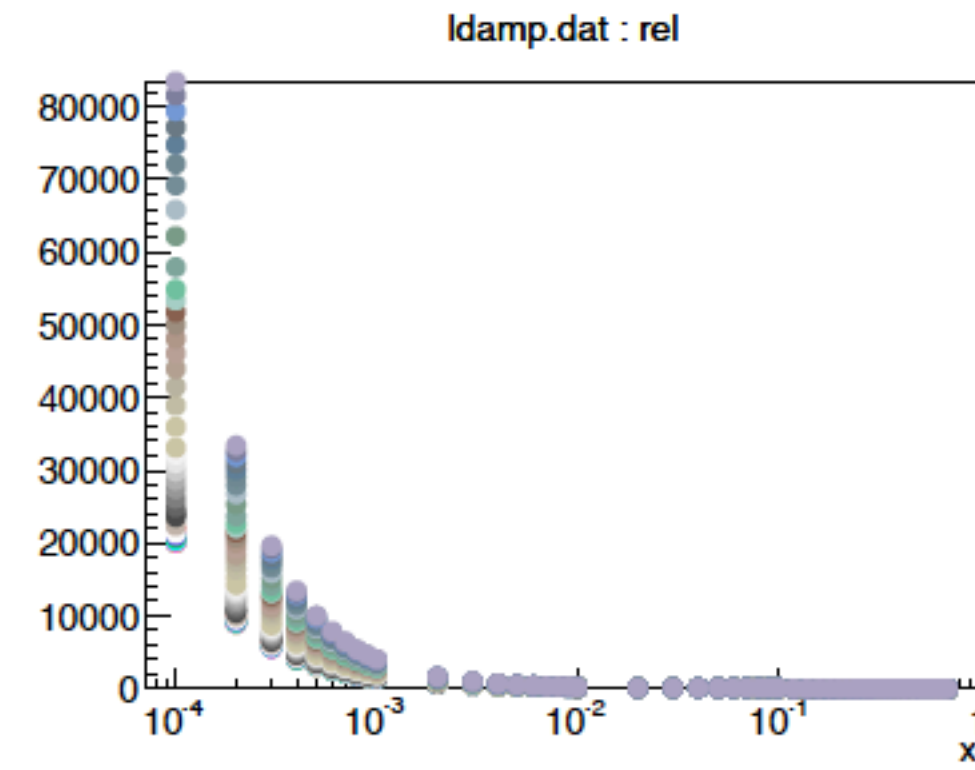
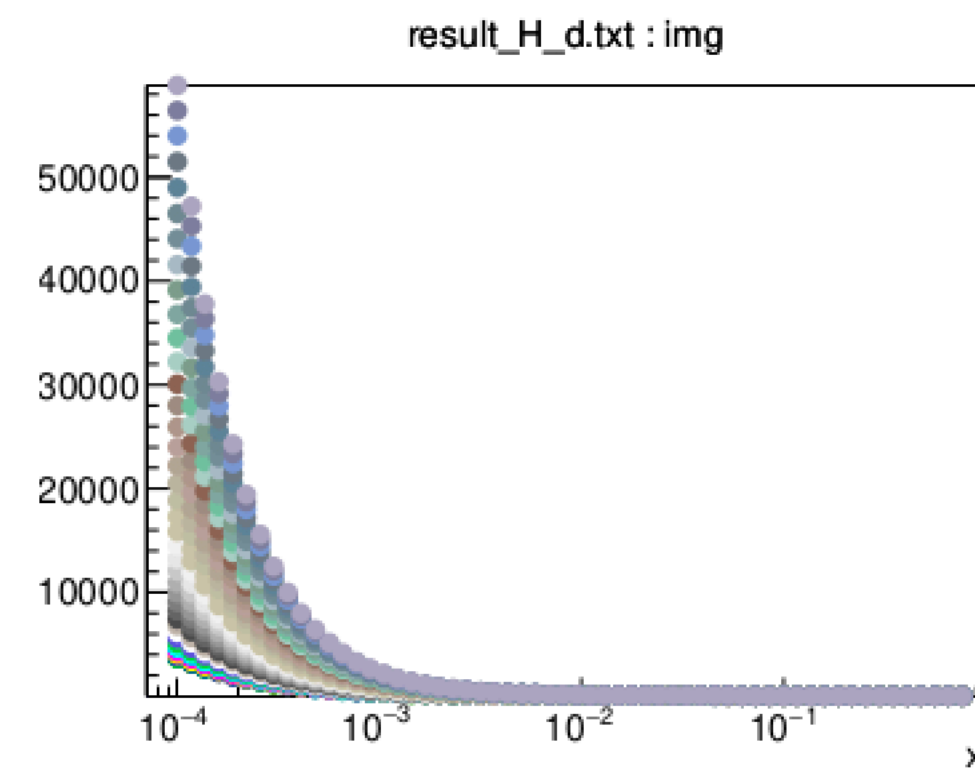
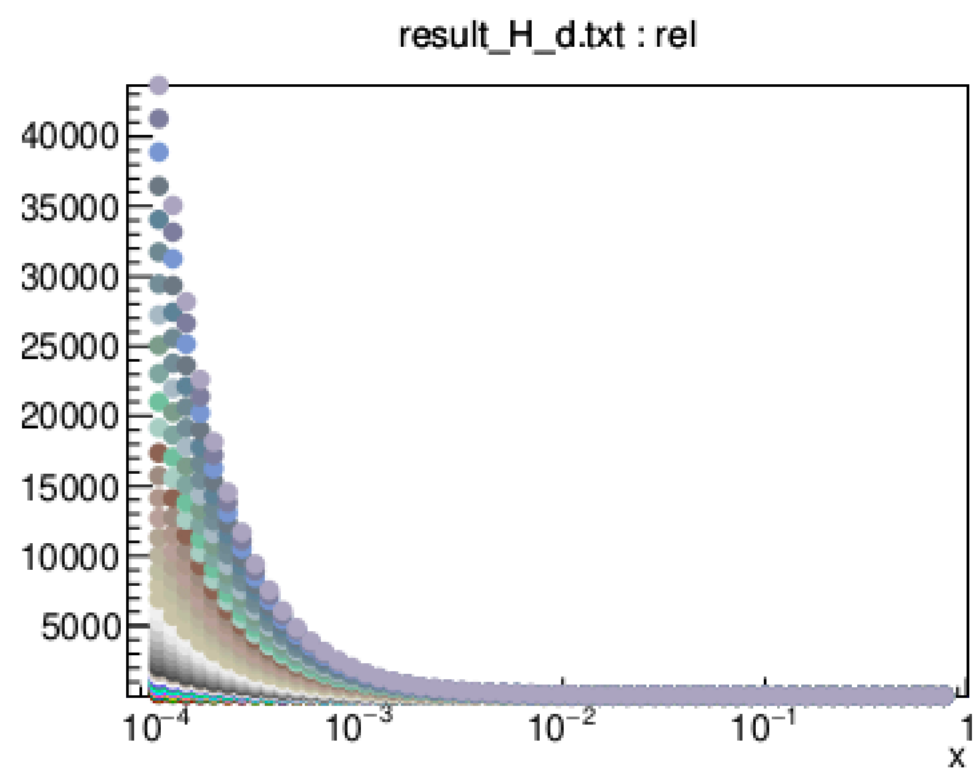
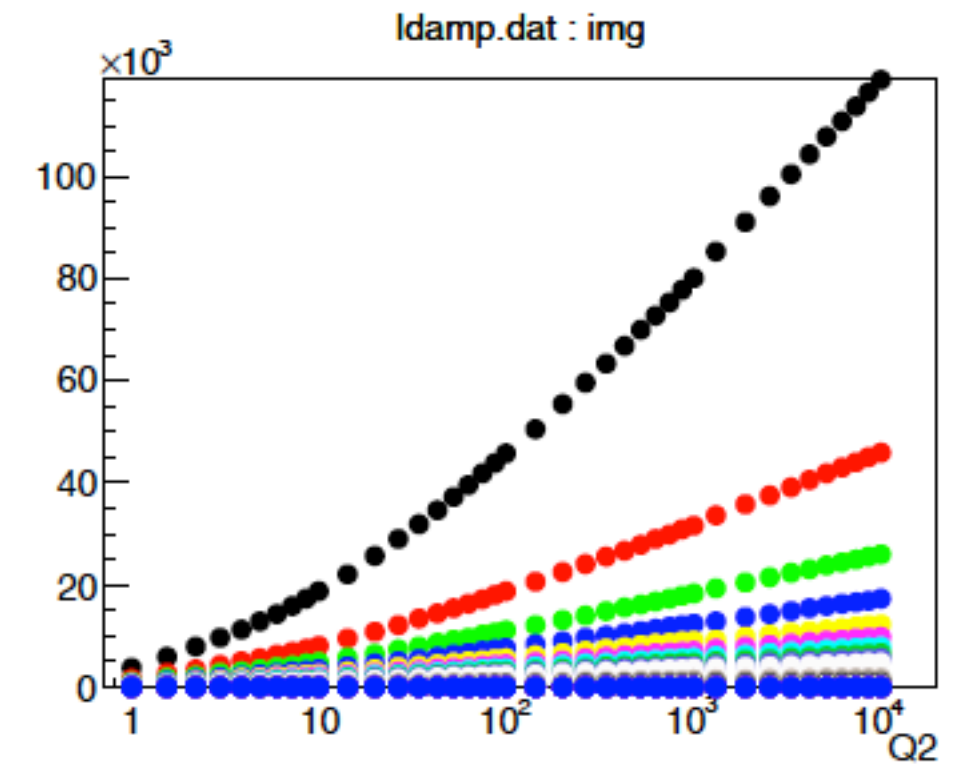
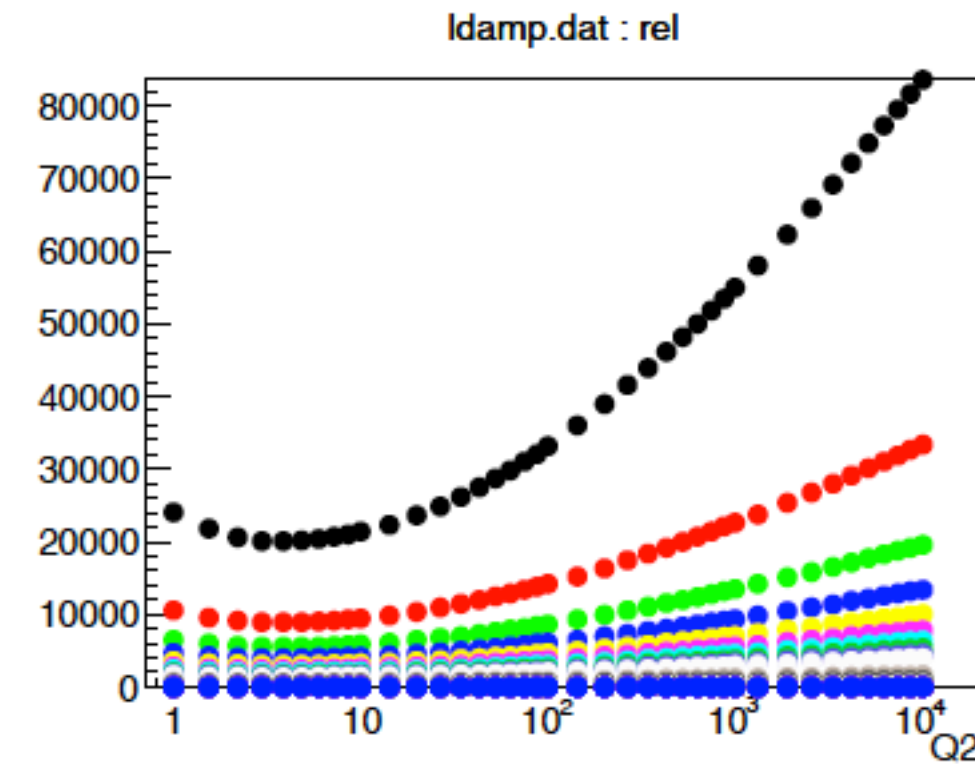
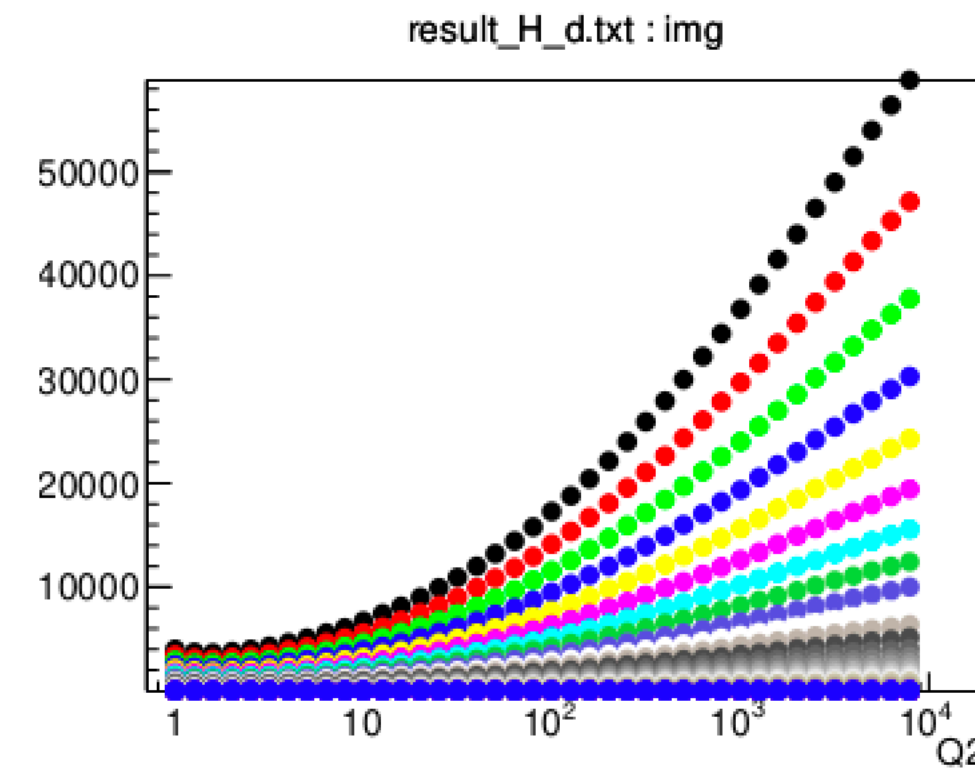
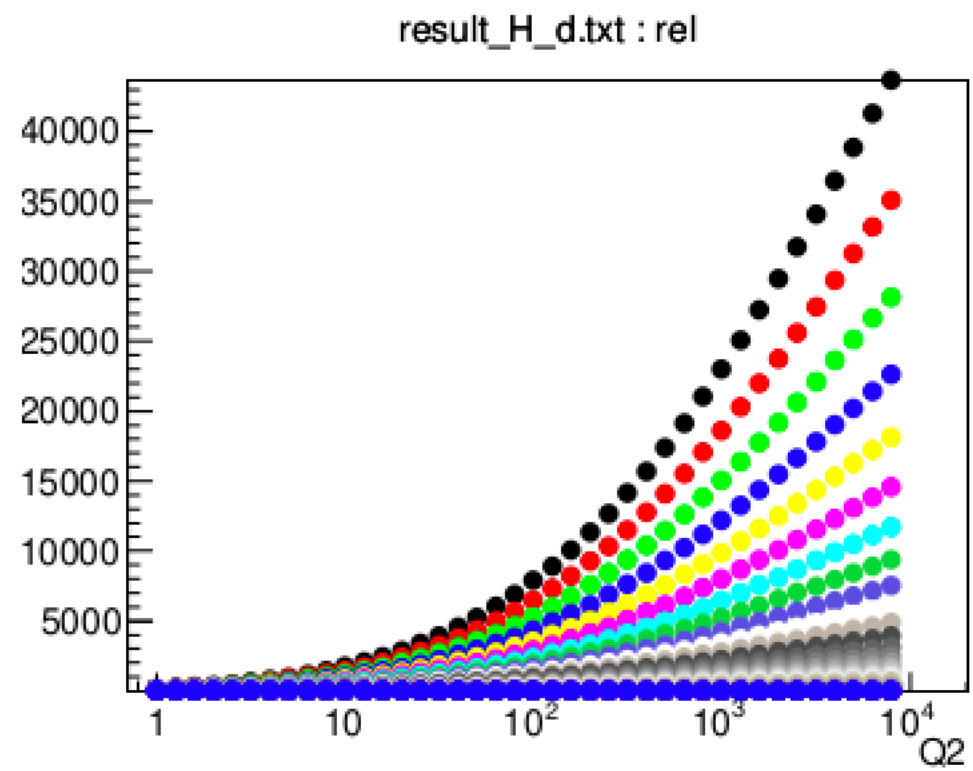
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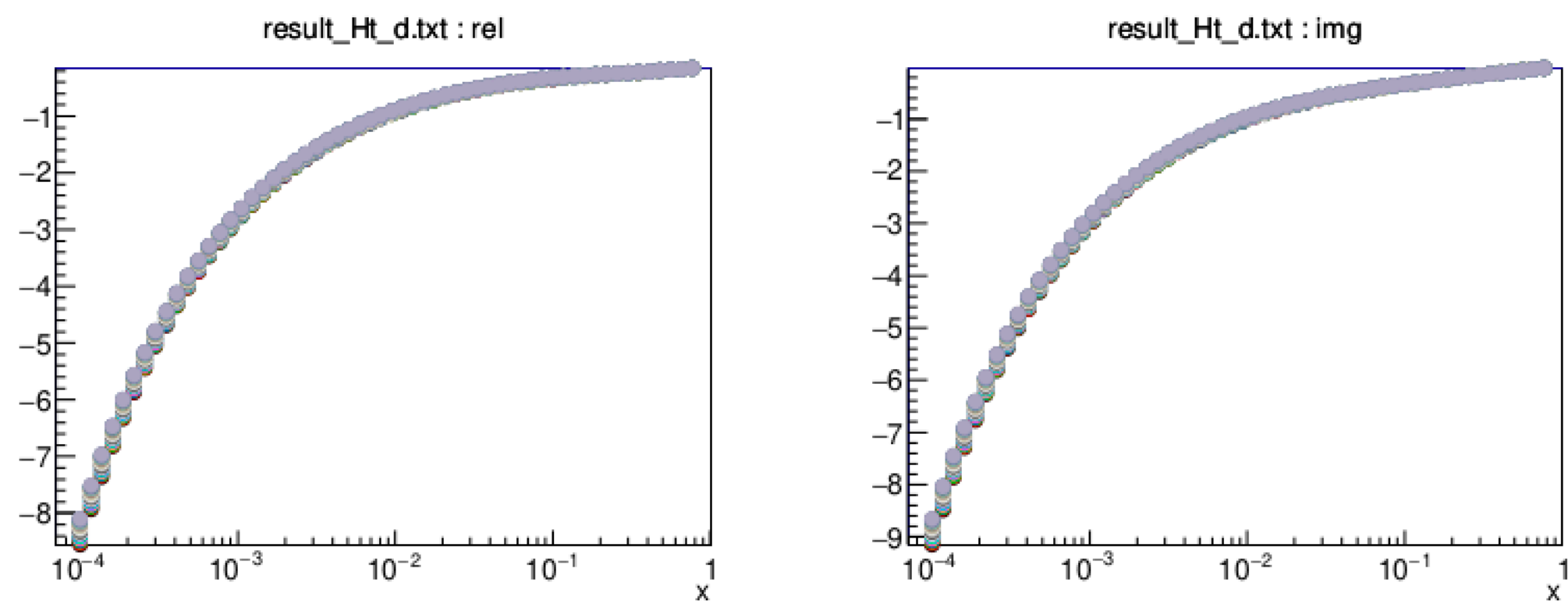
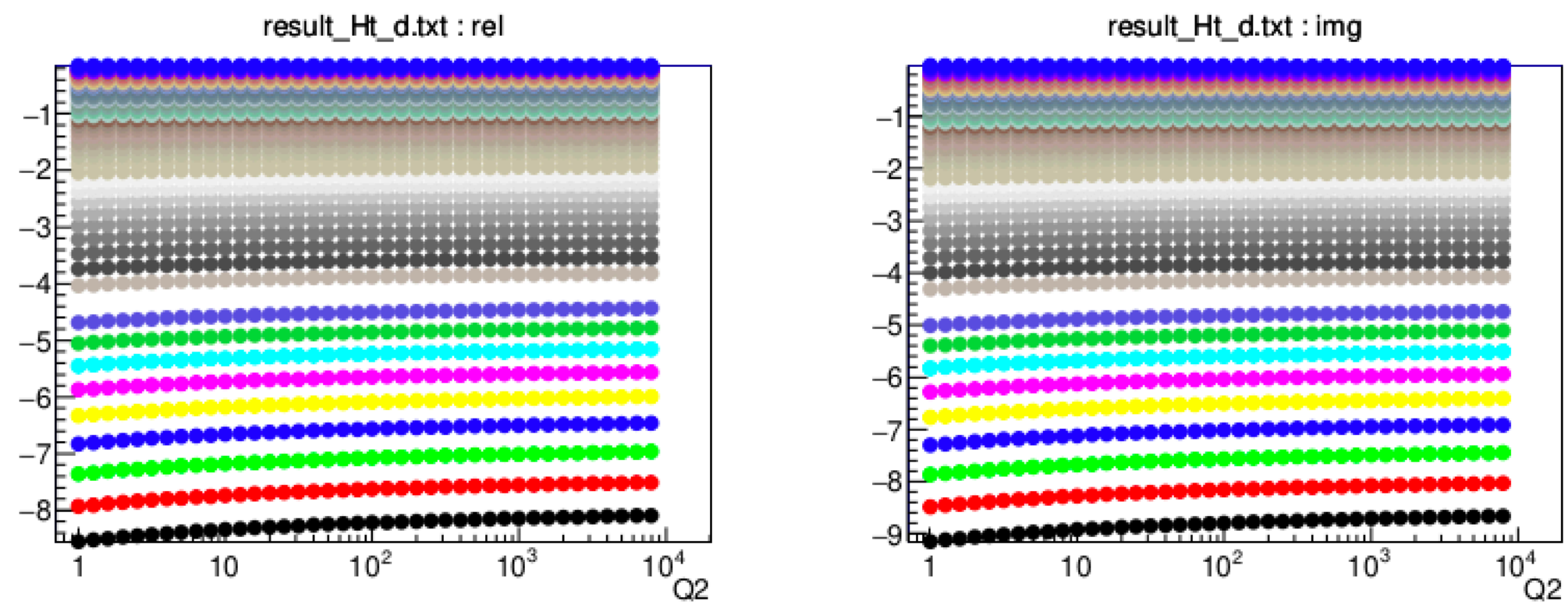
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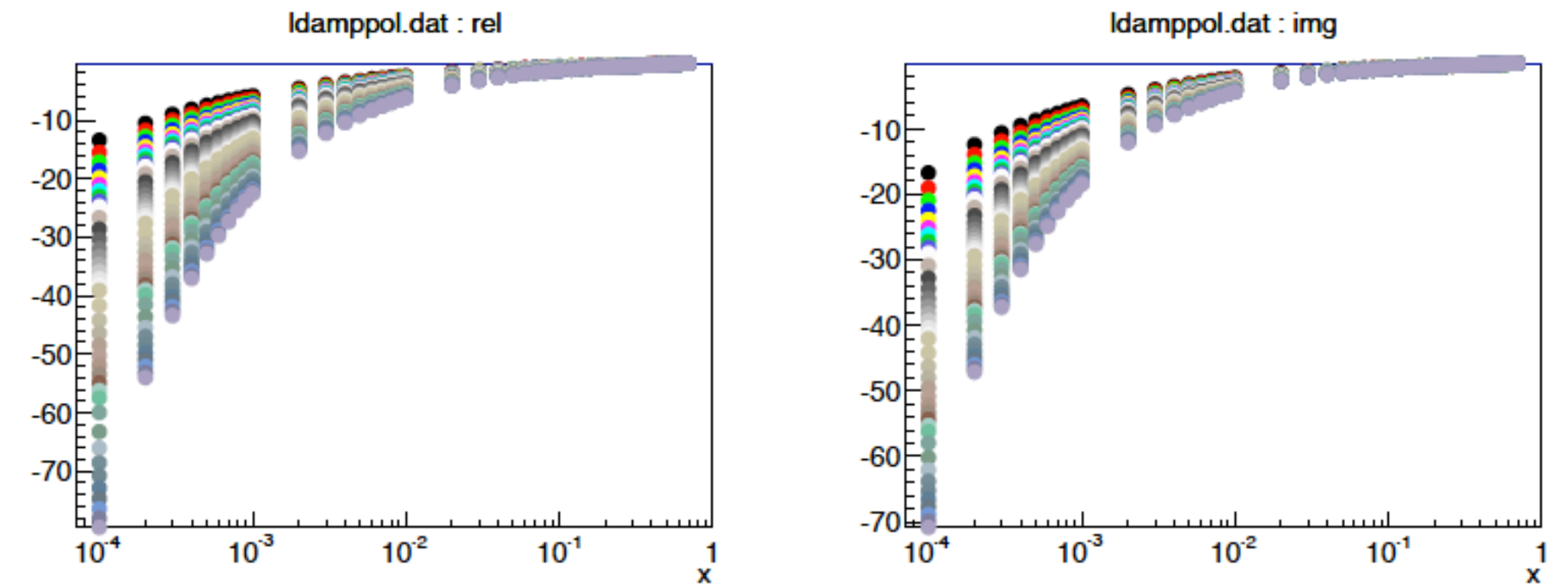
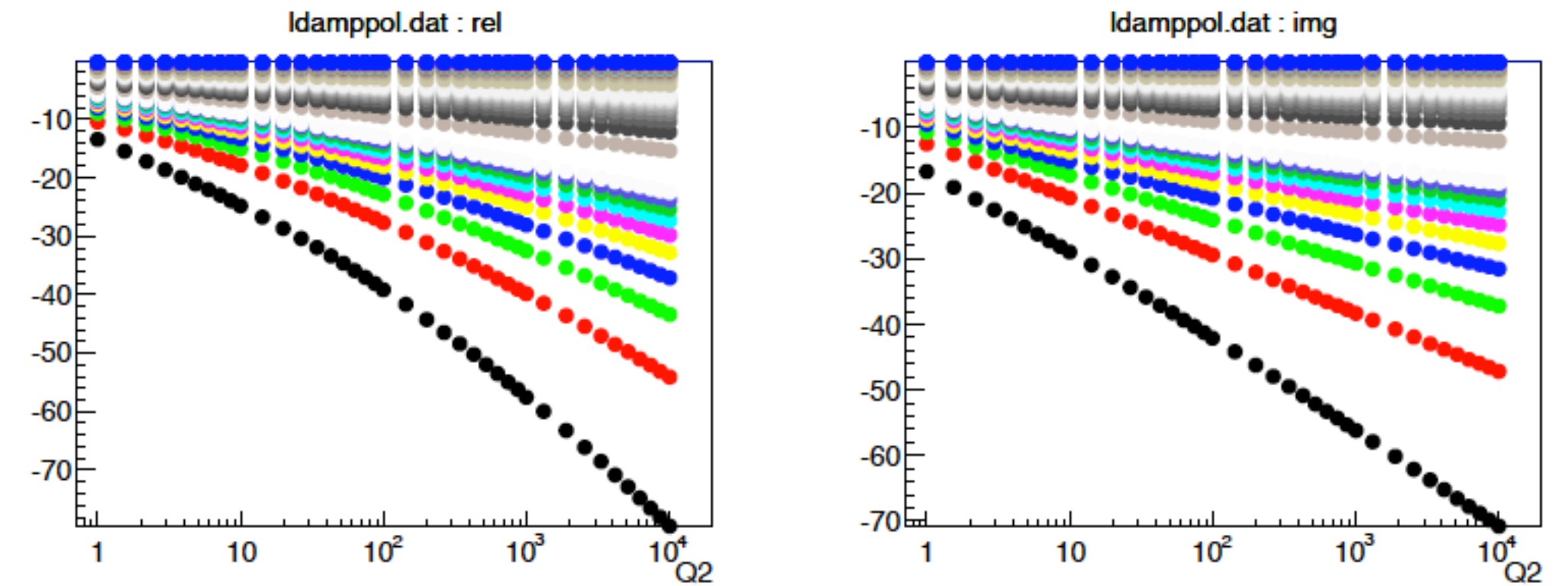
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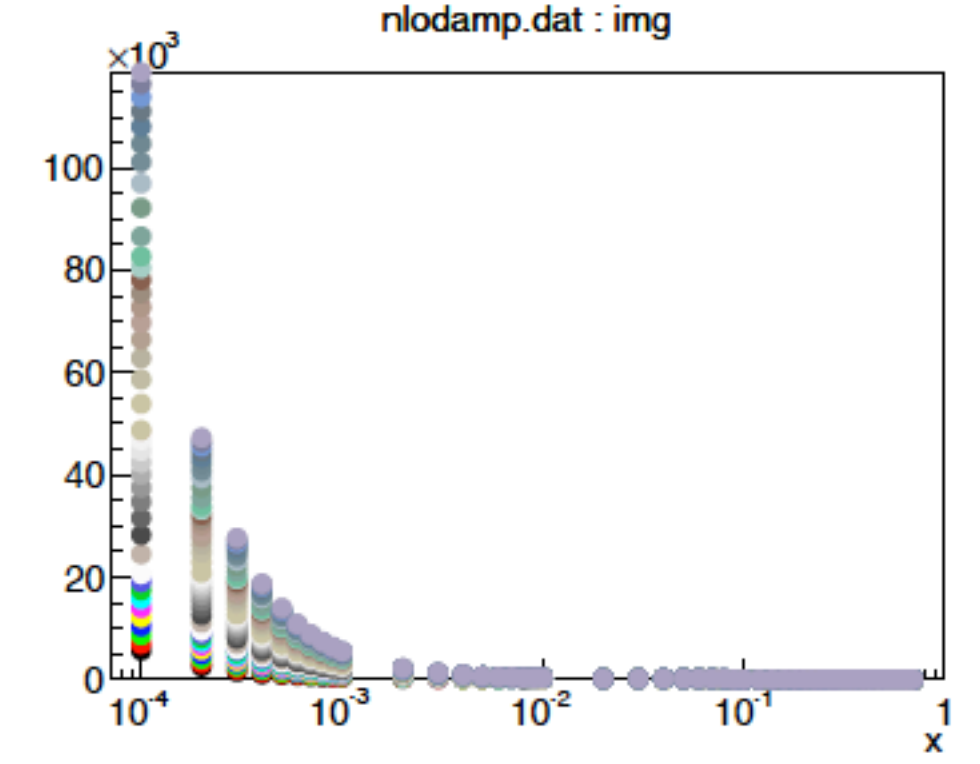
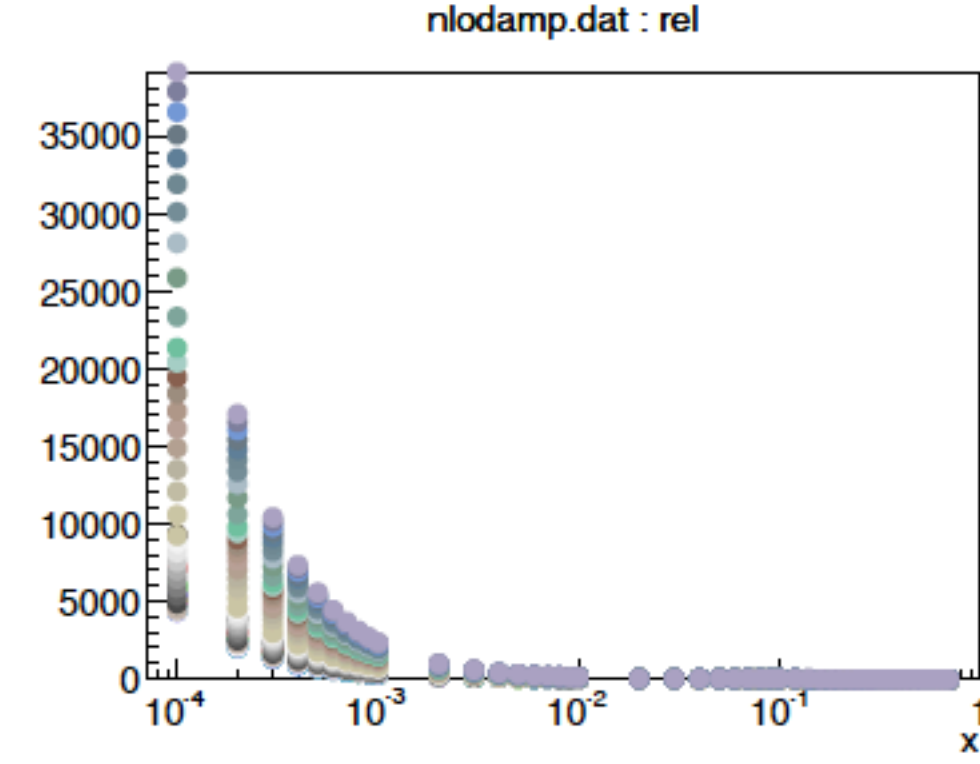
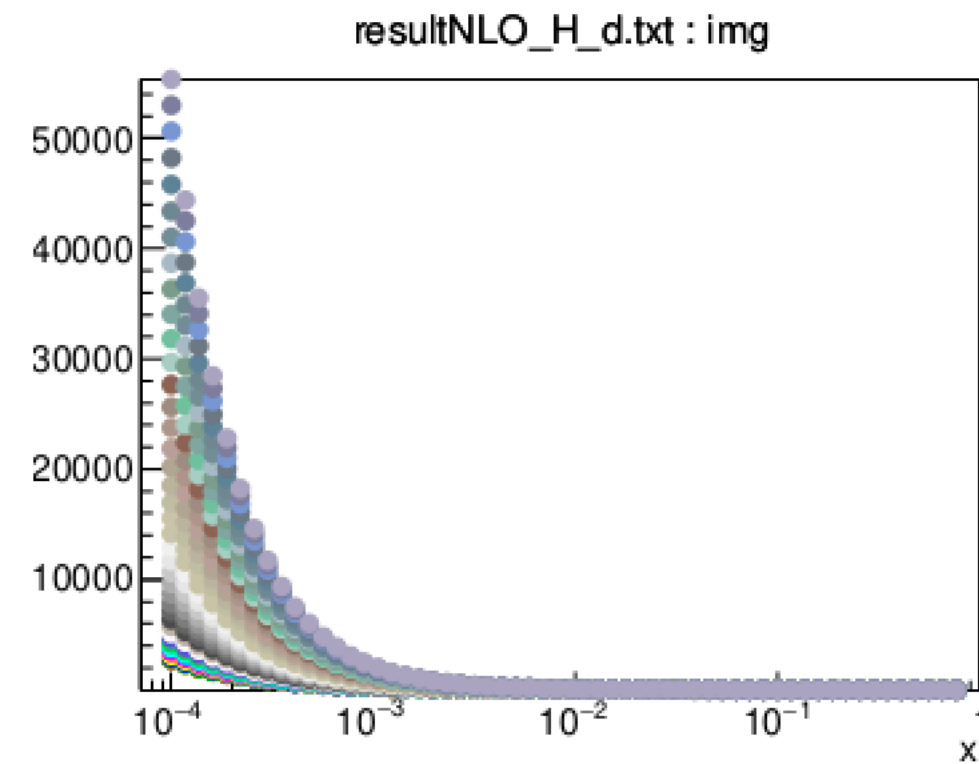
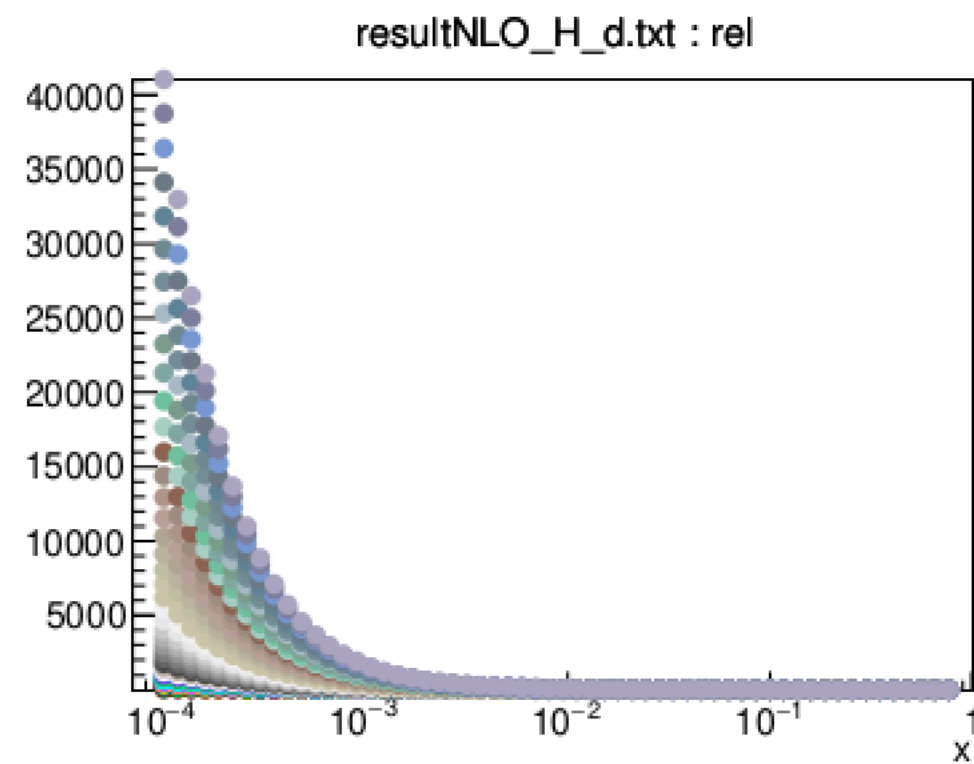
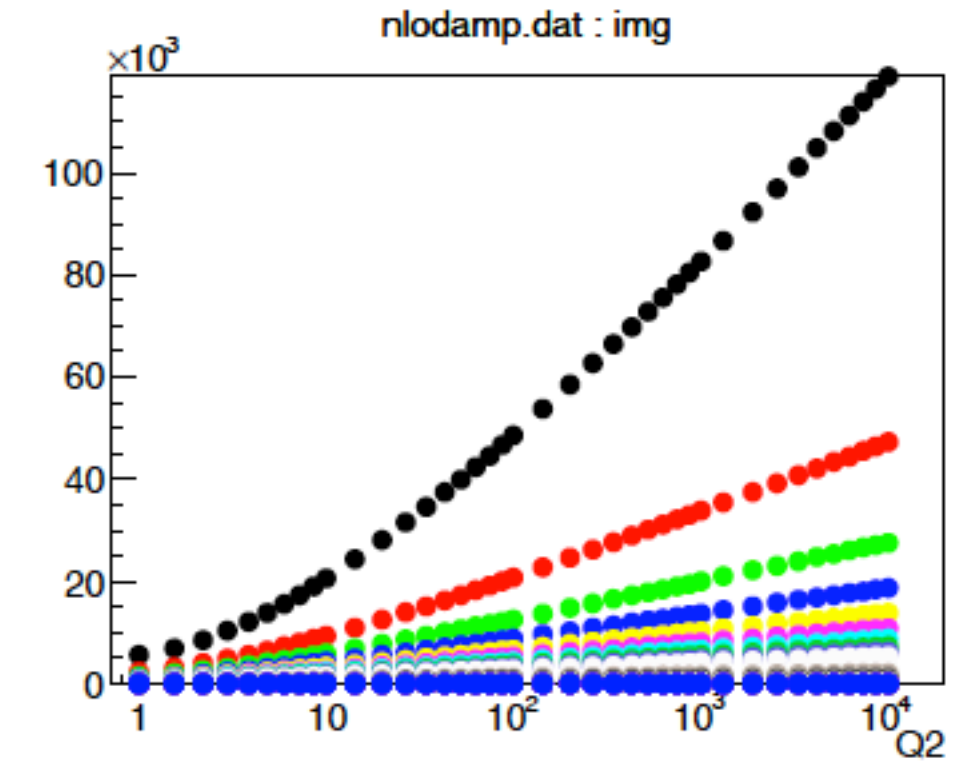
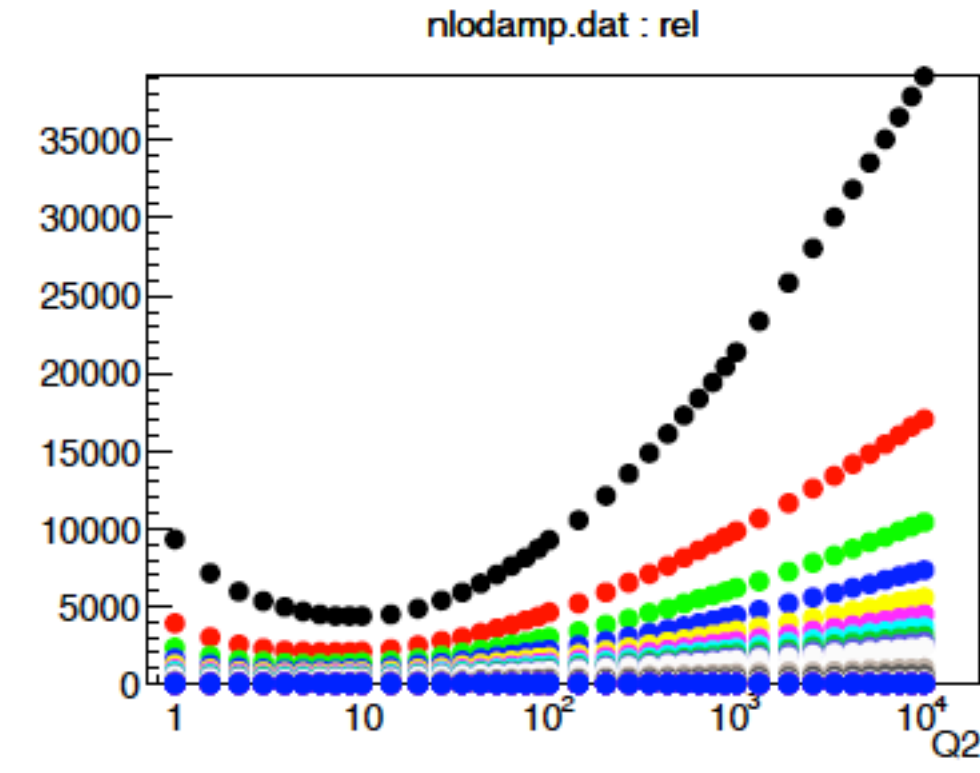
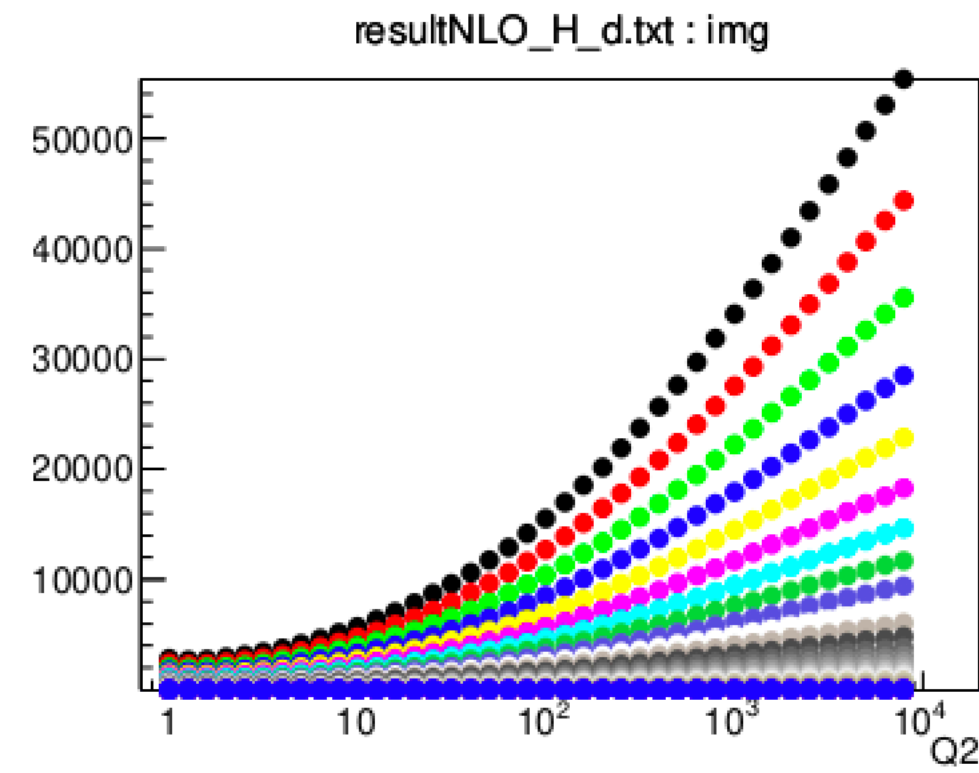
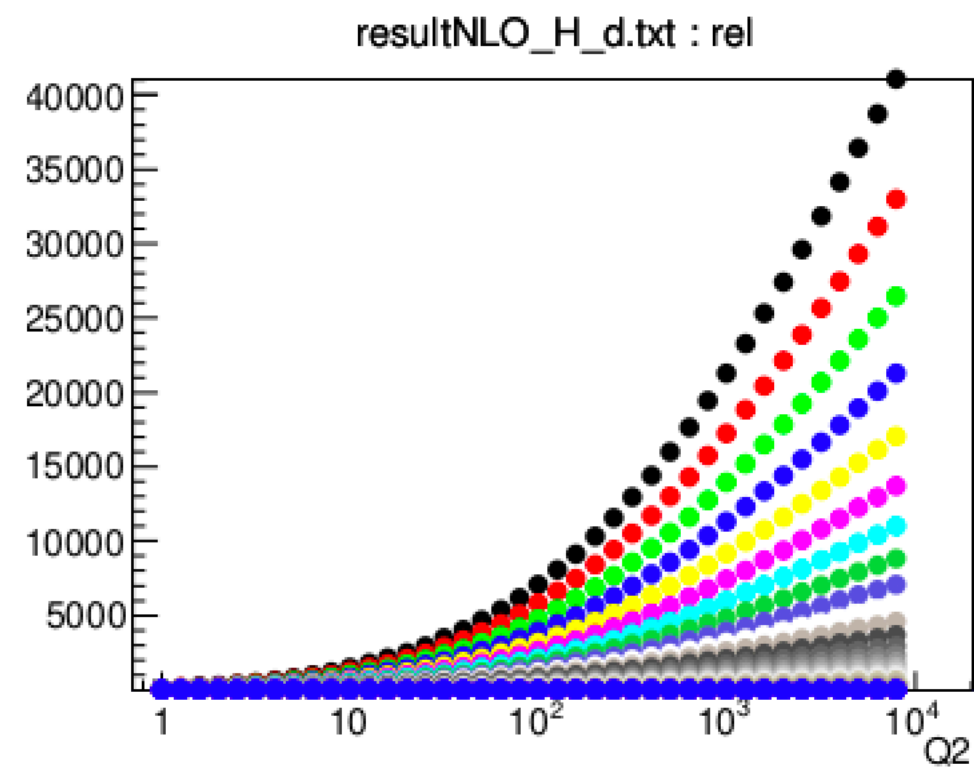


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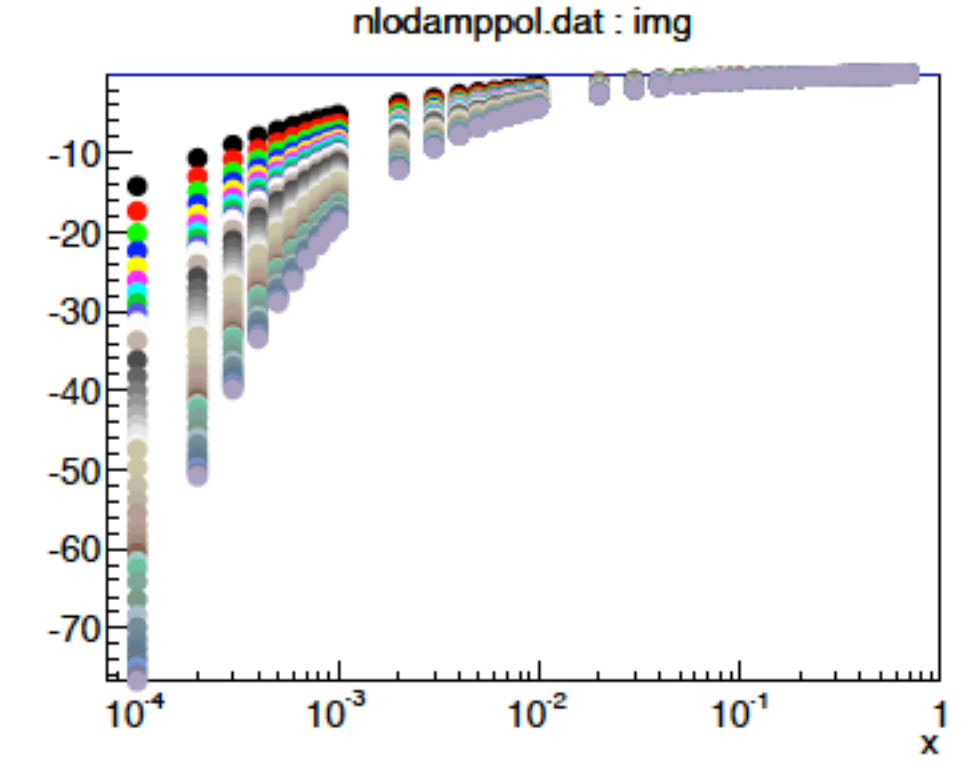
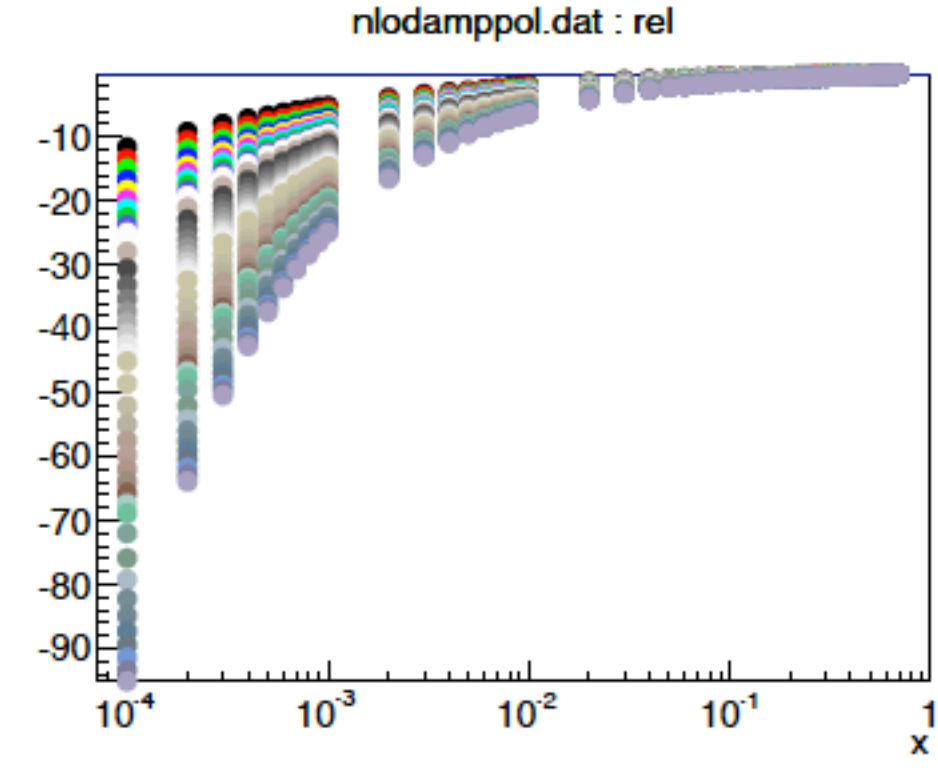
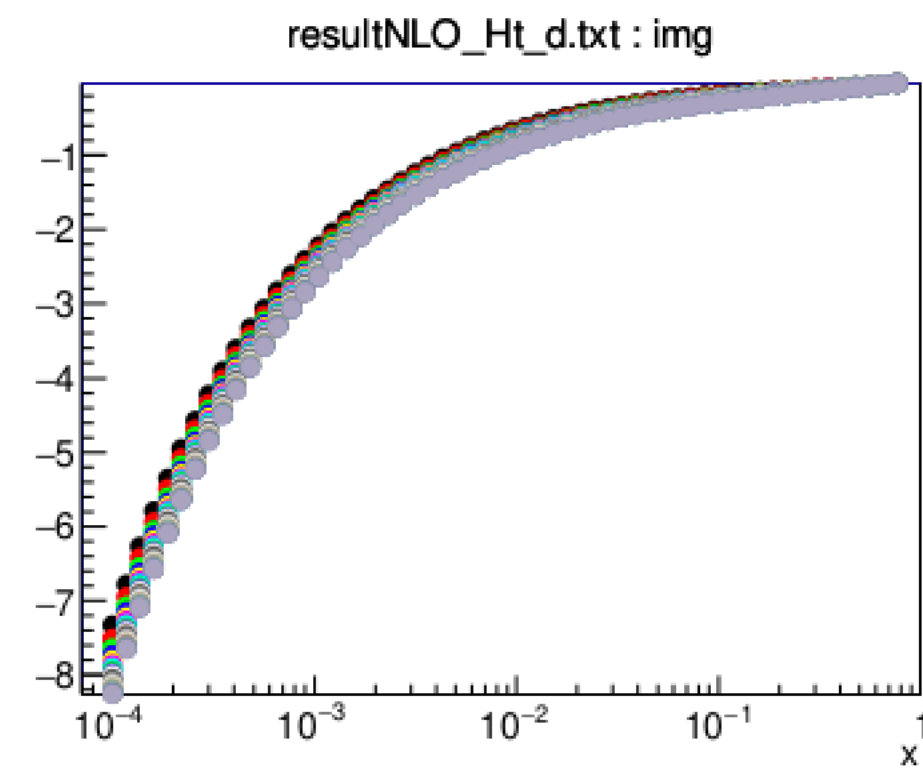
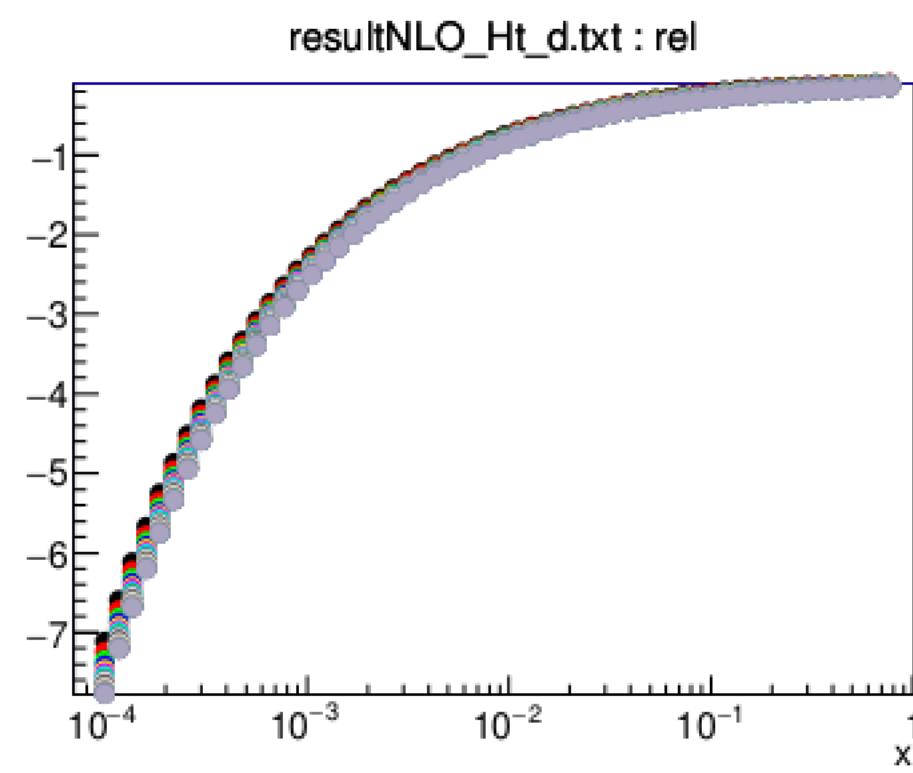
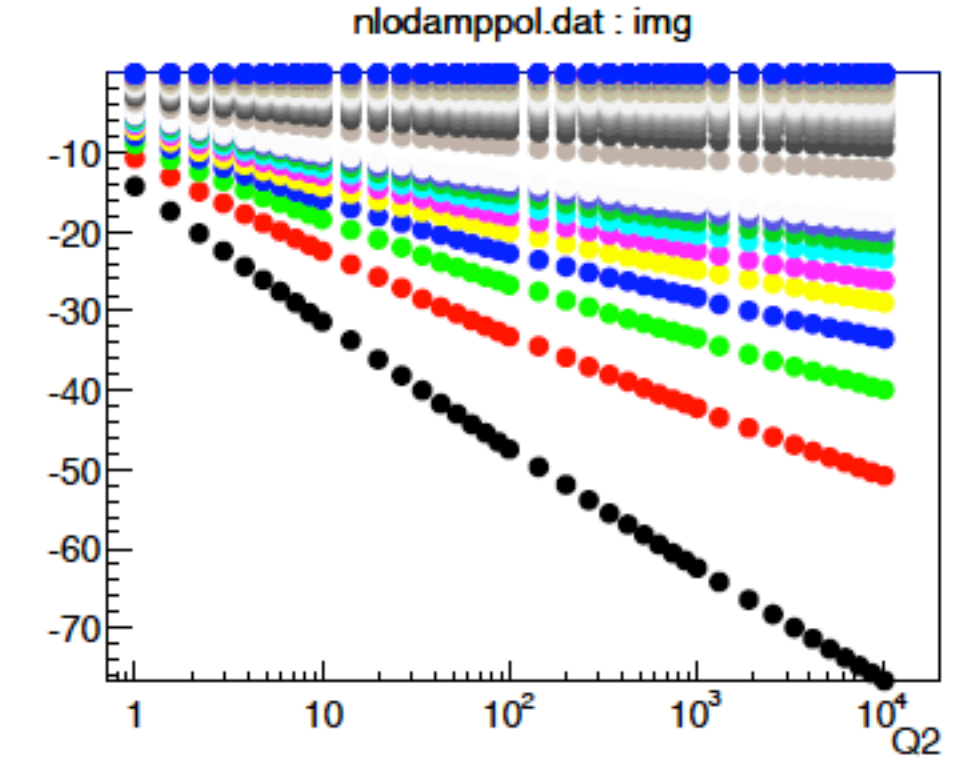
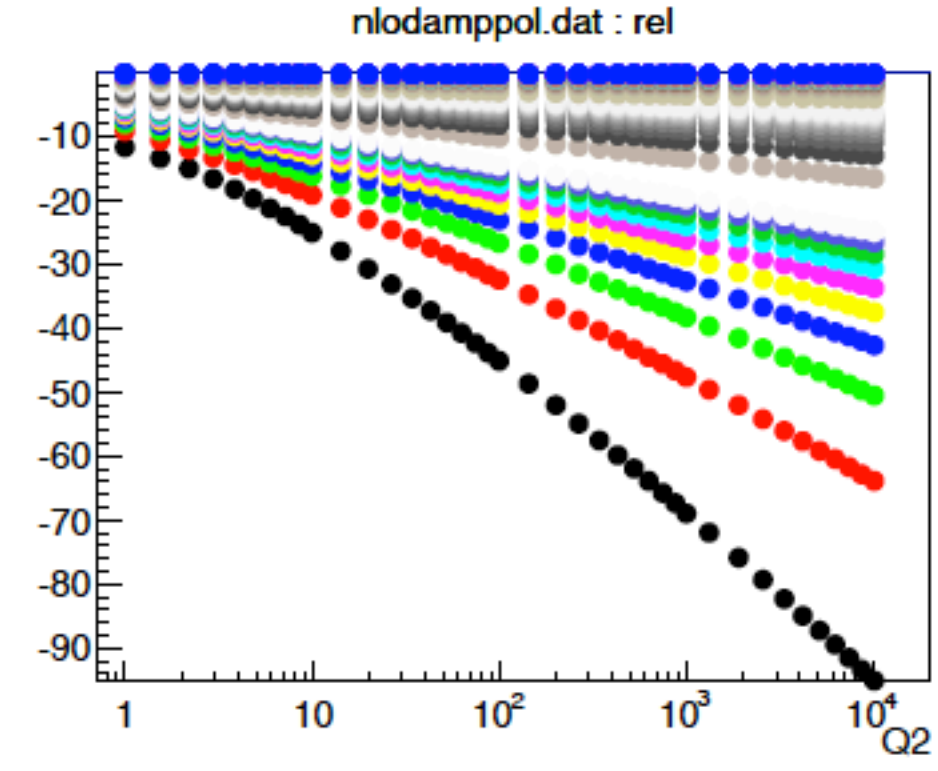
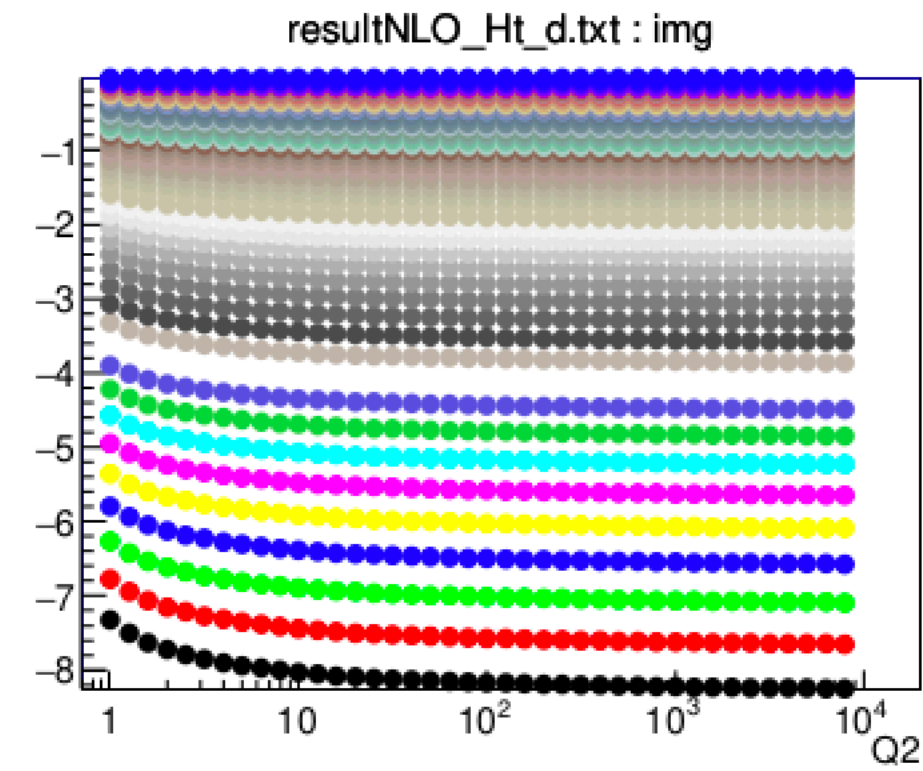
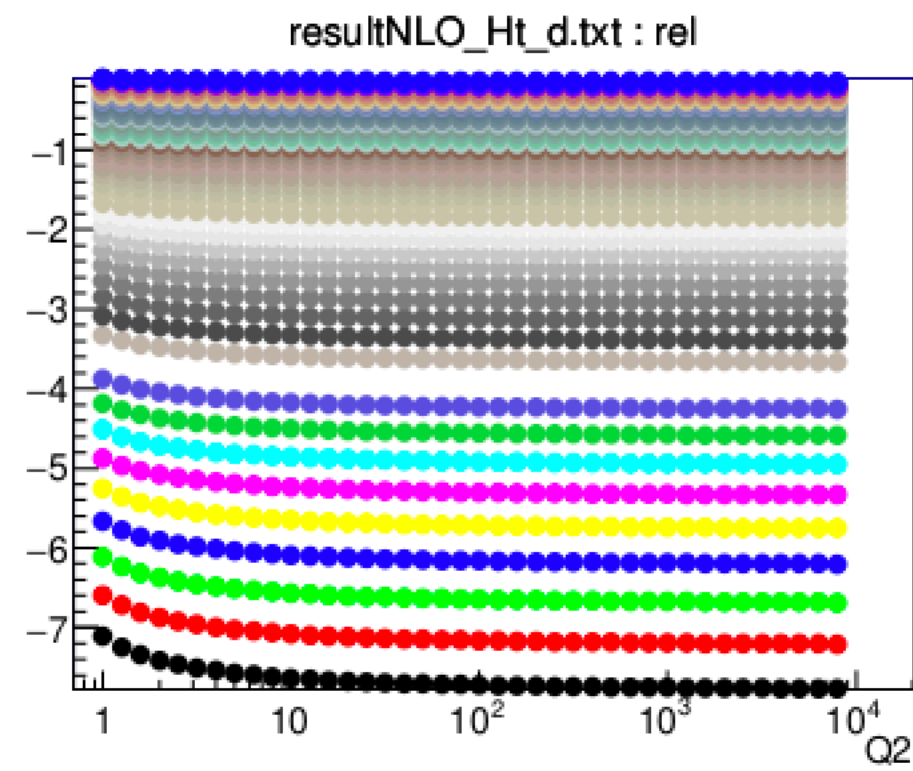
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Down Ht NLO



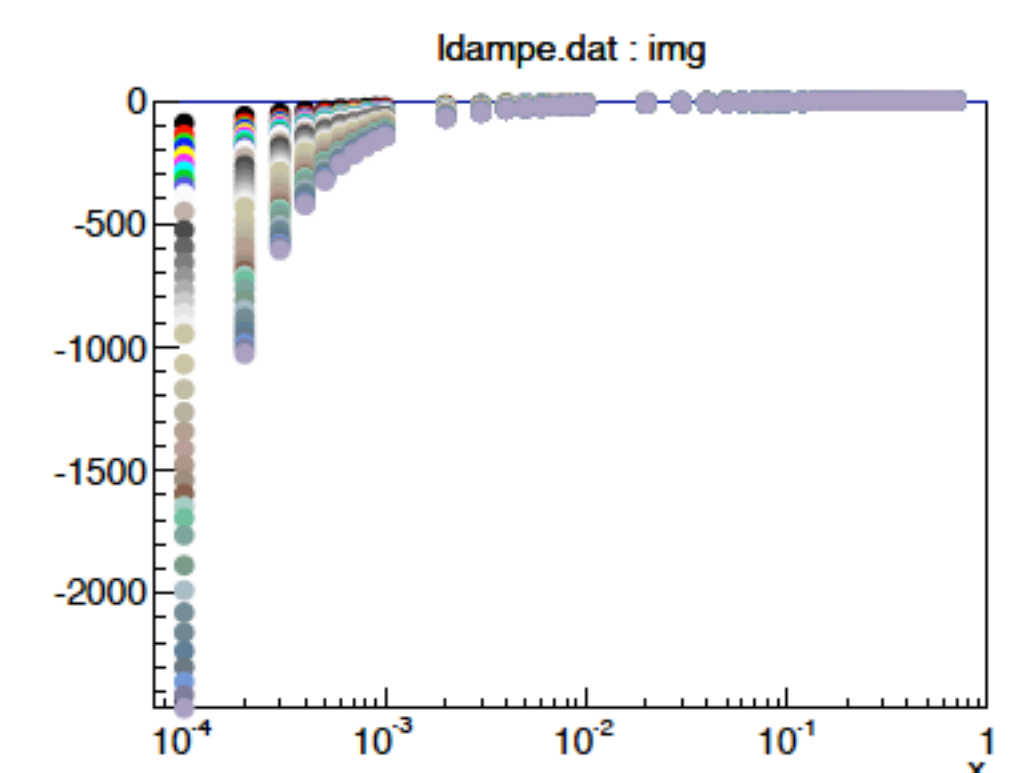
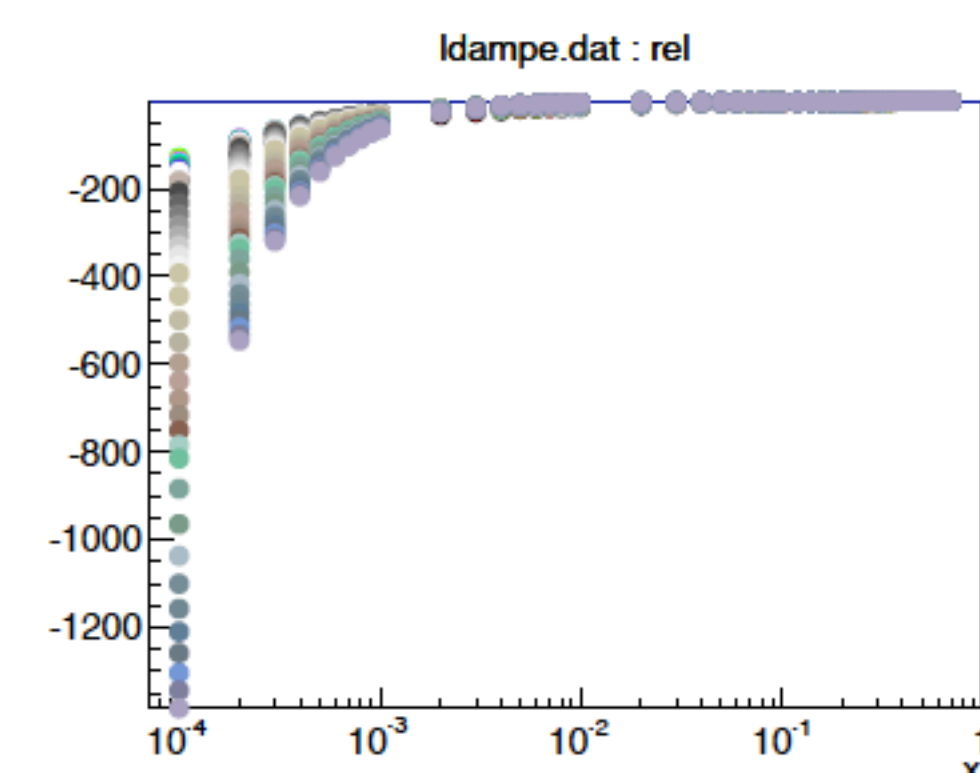
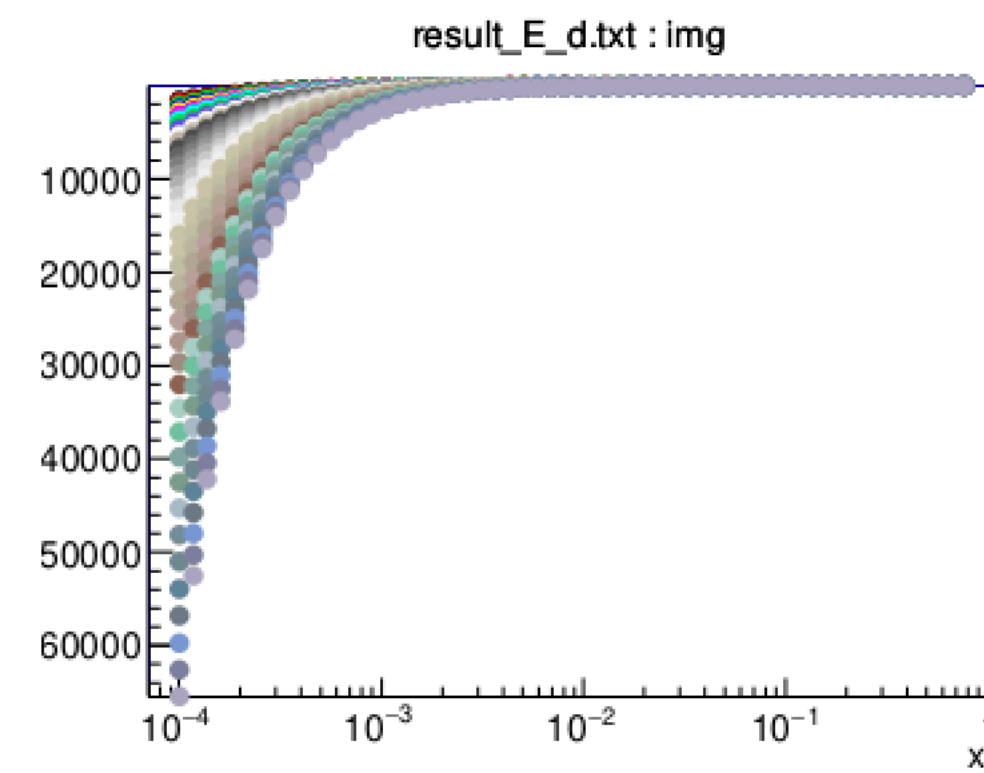
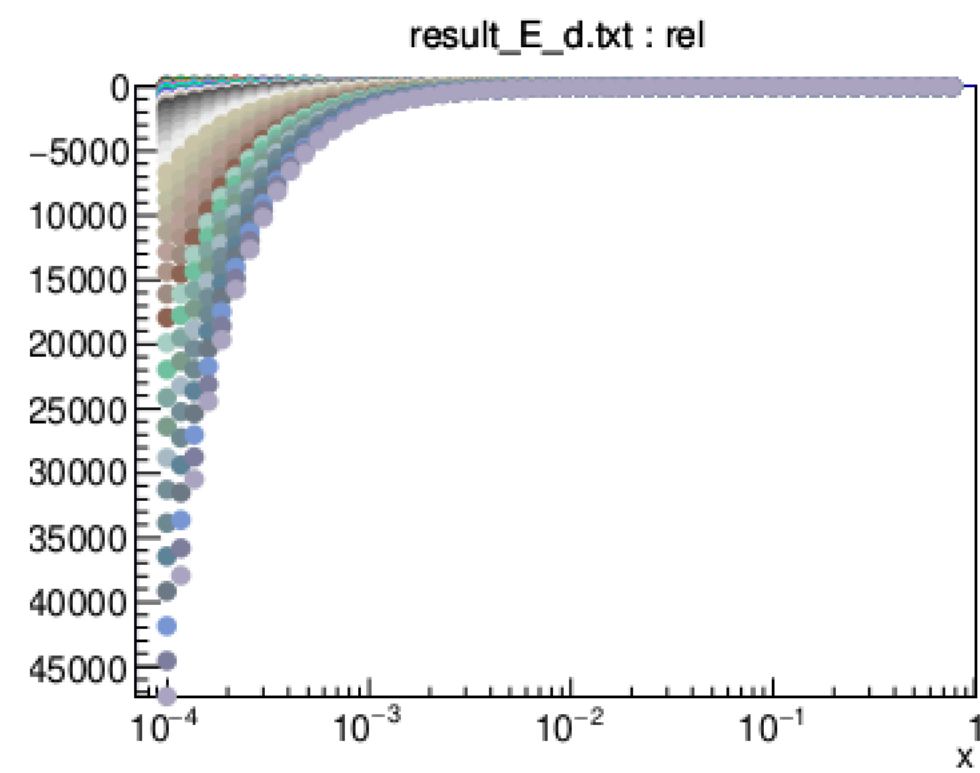
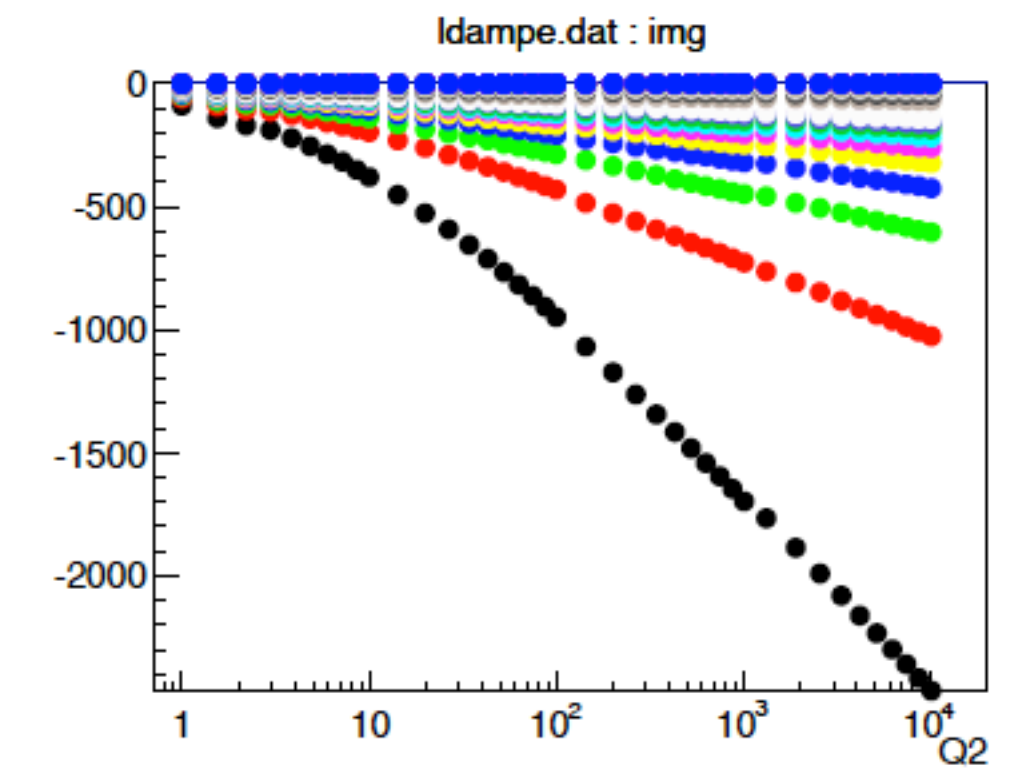
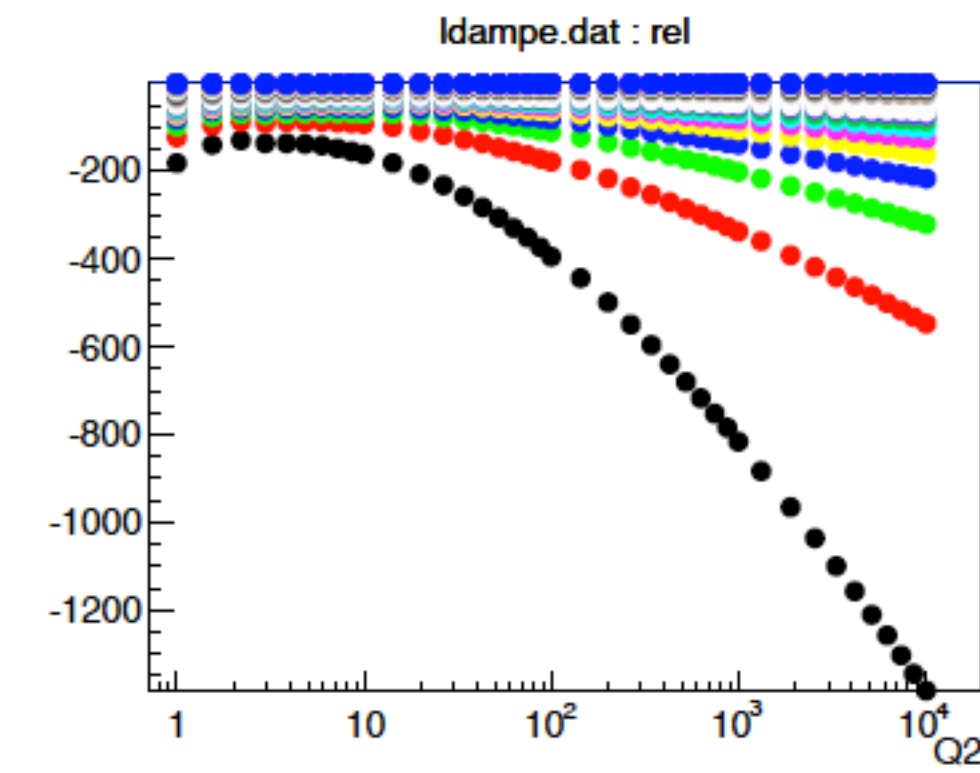
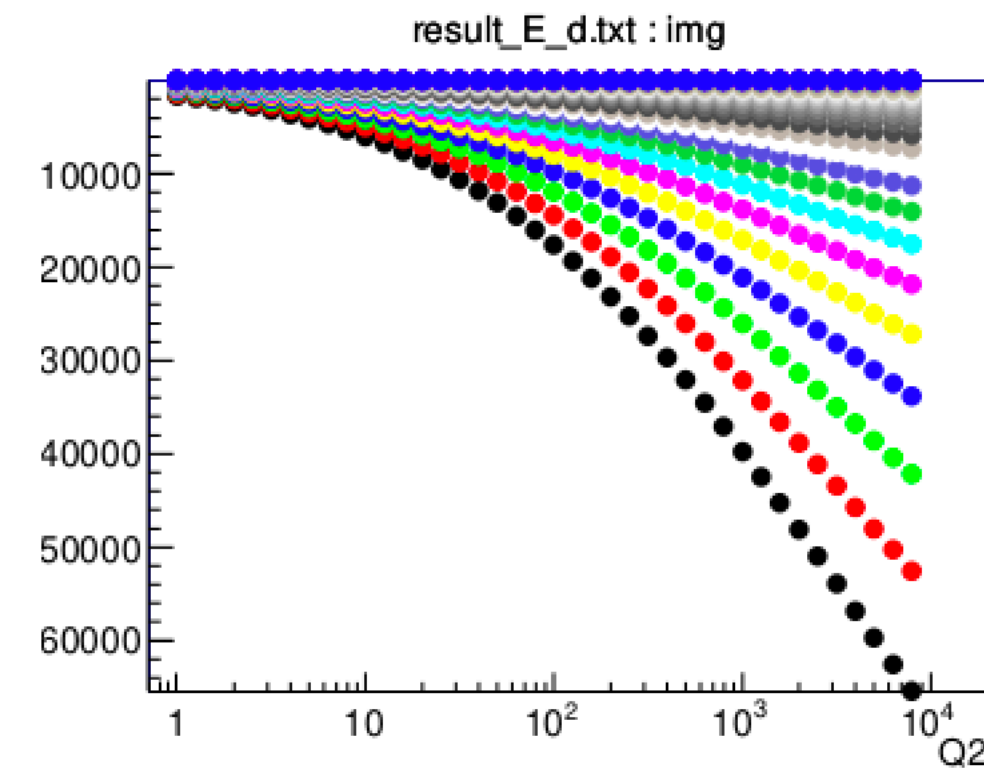
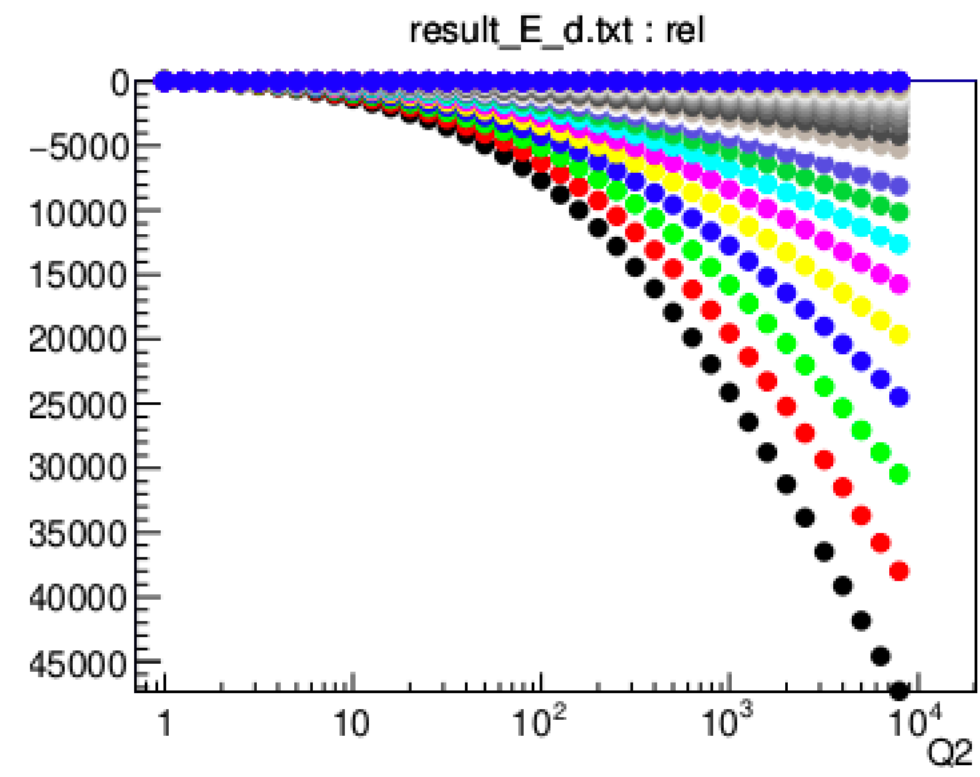
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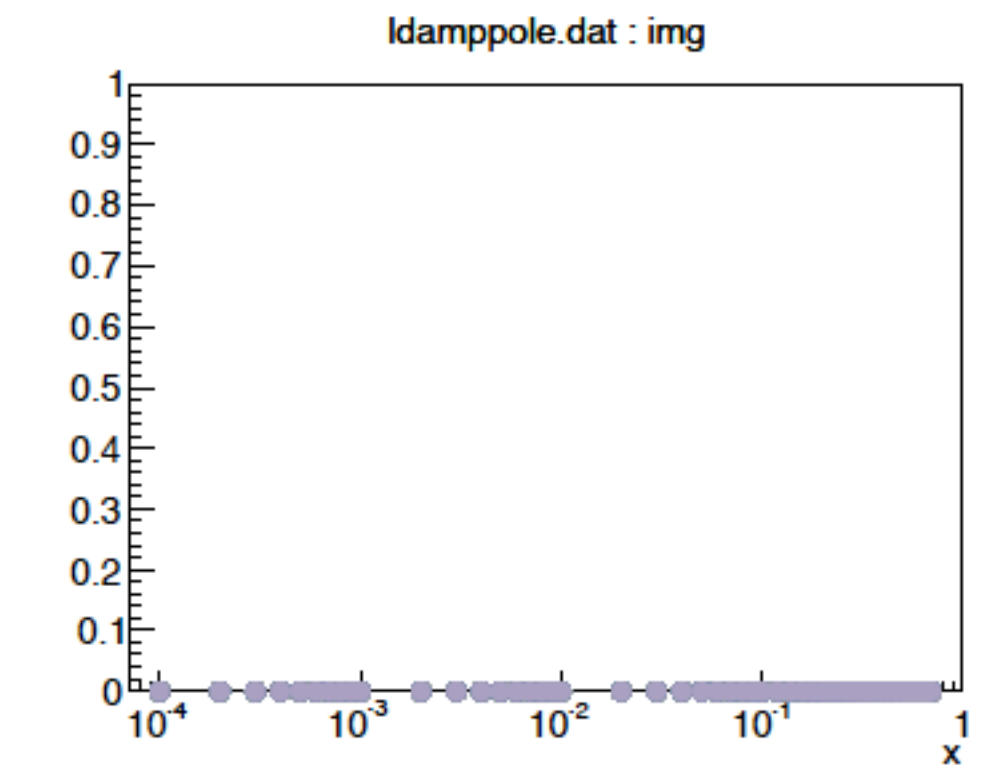
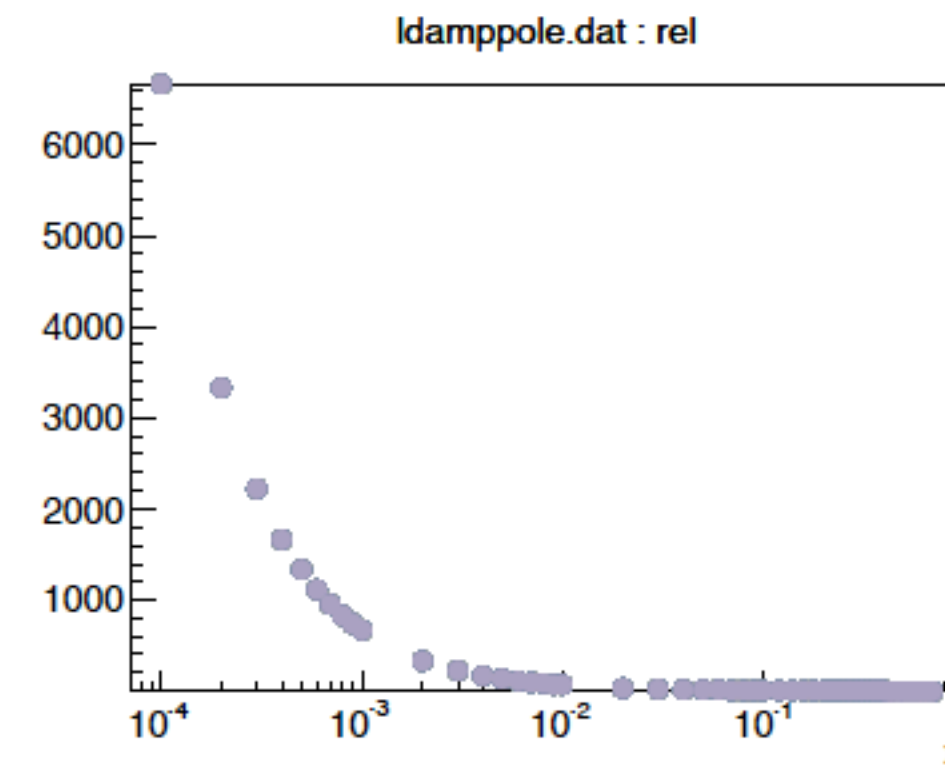
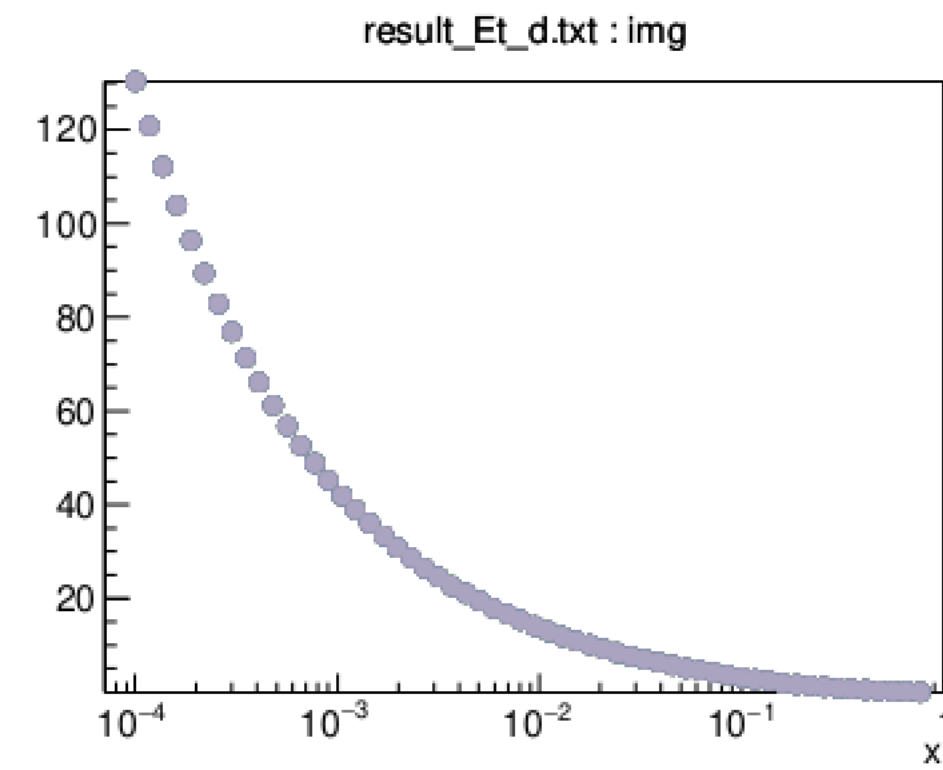
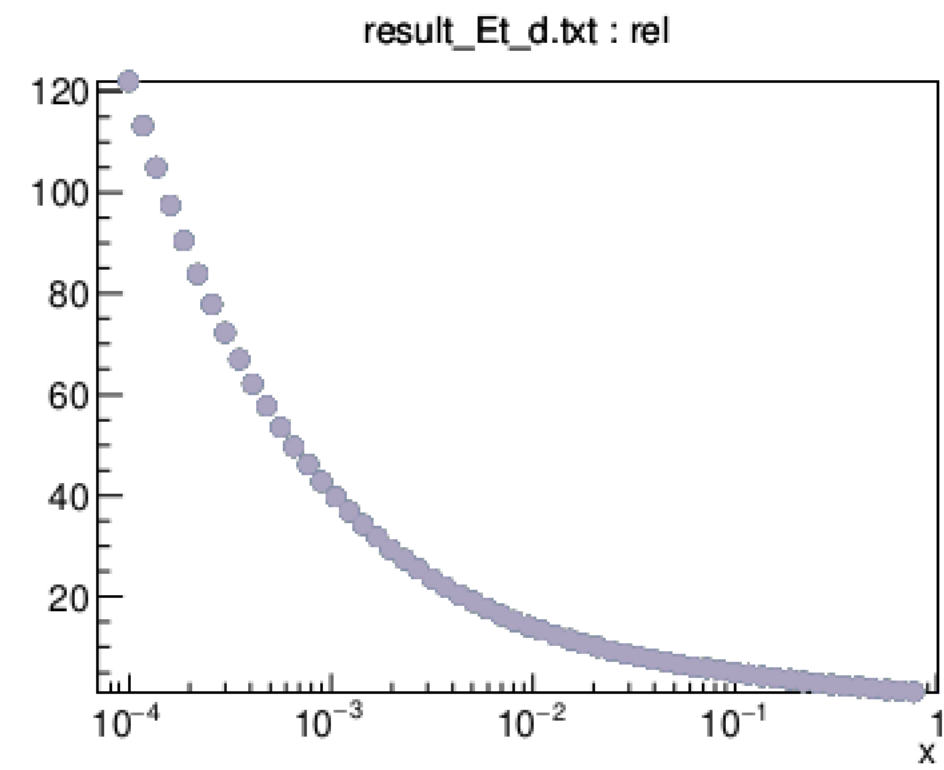
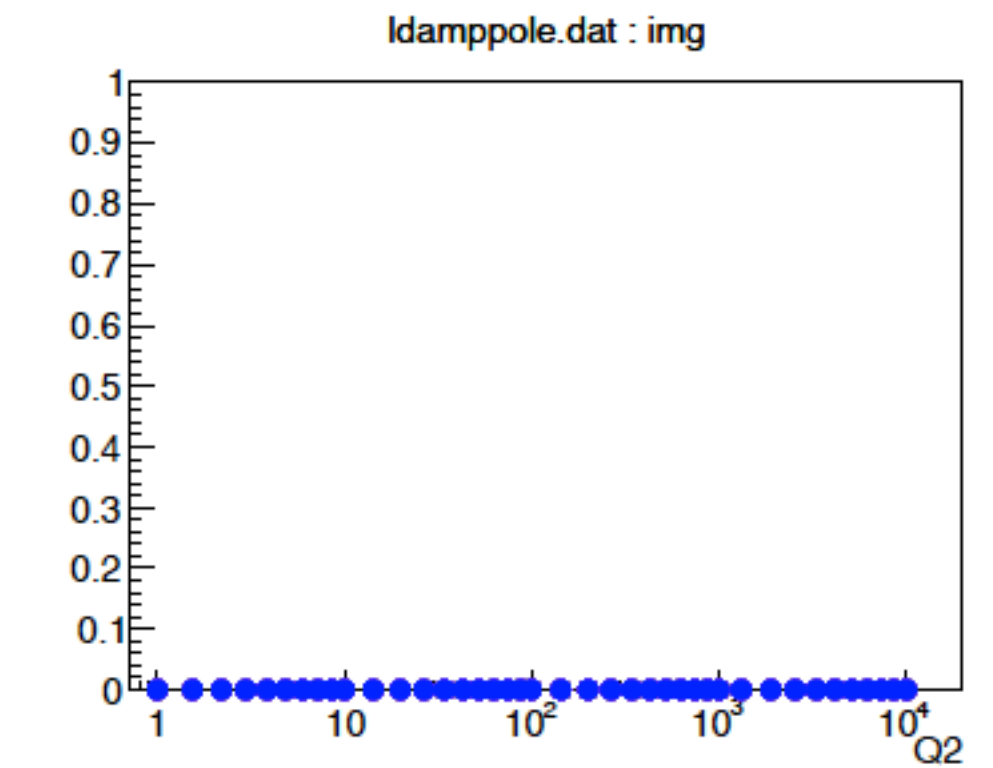
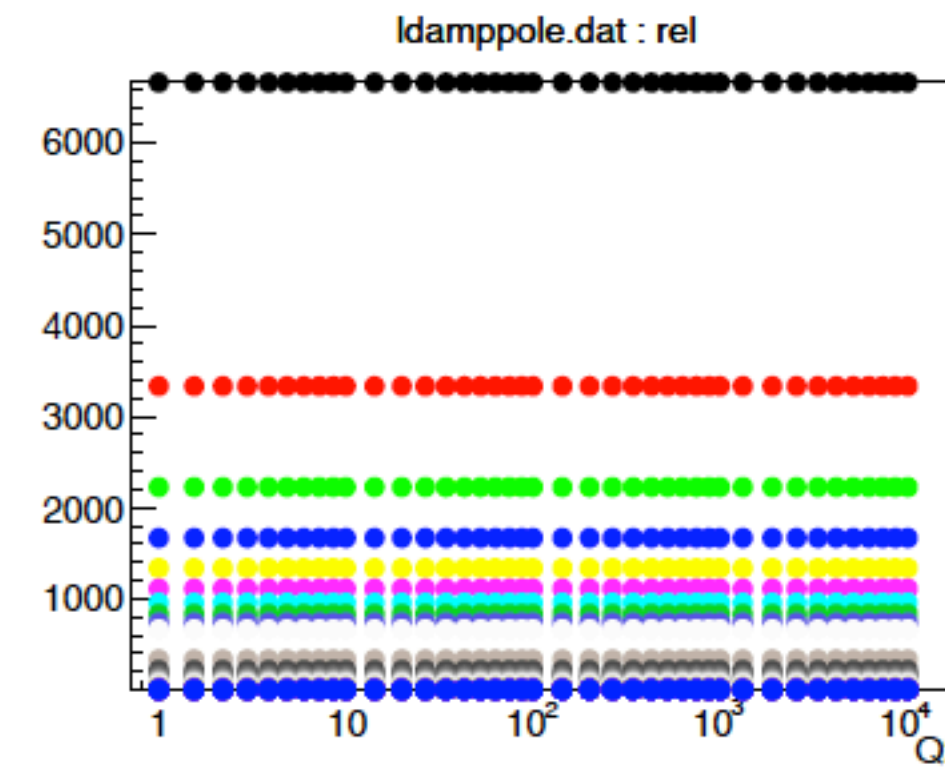
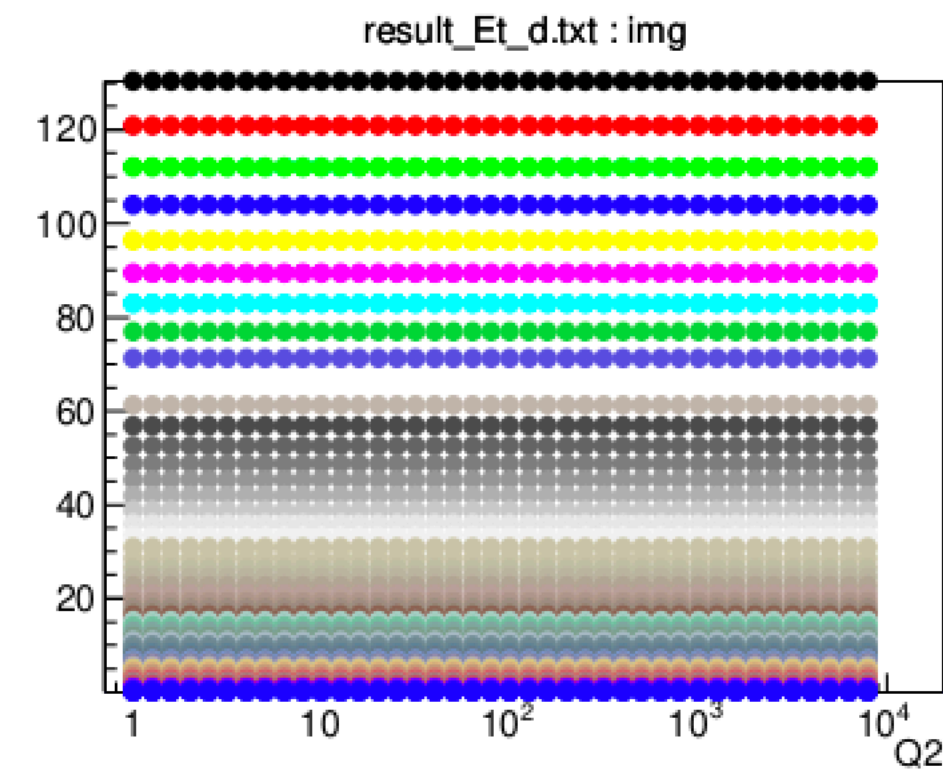
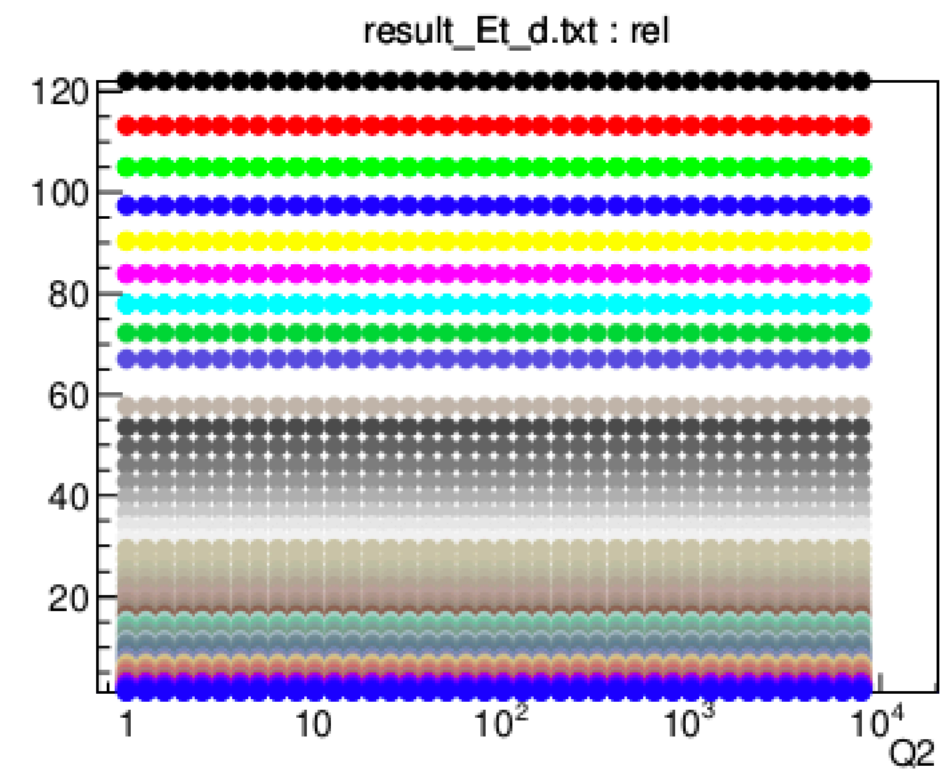
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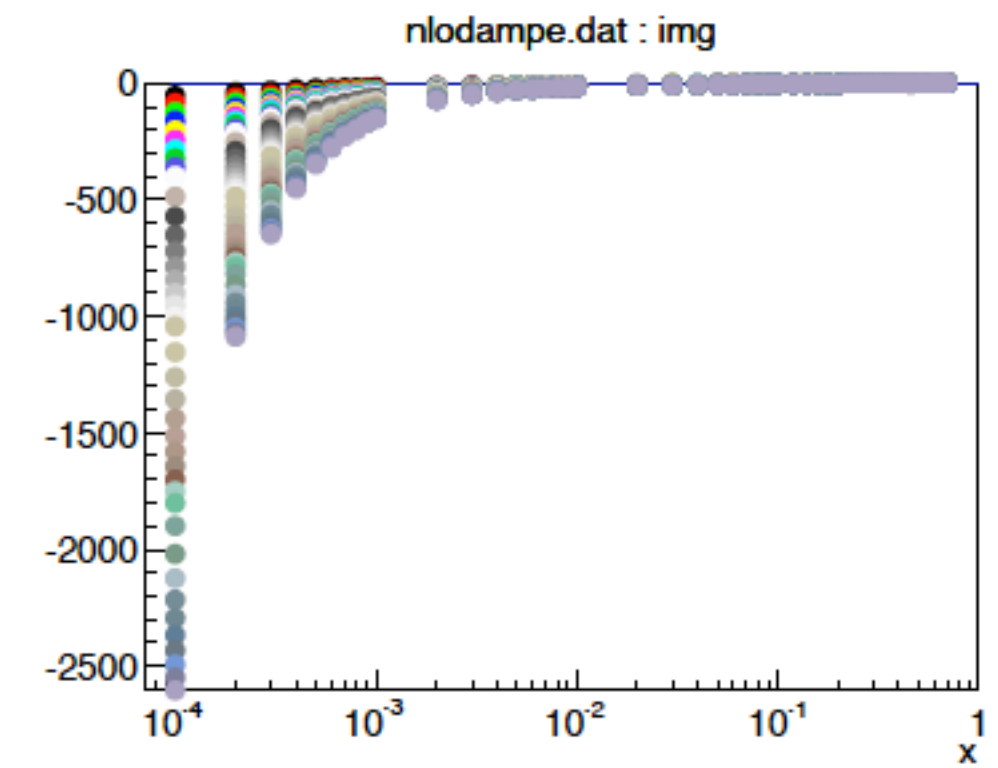
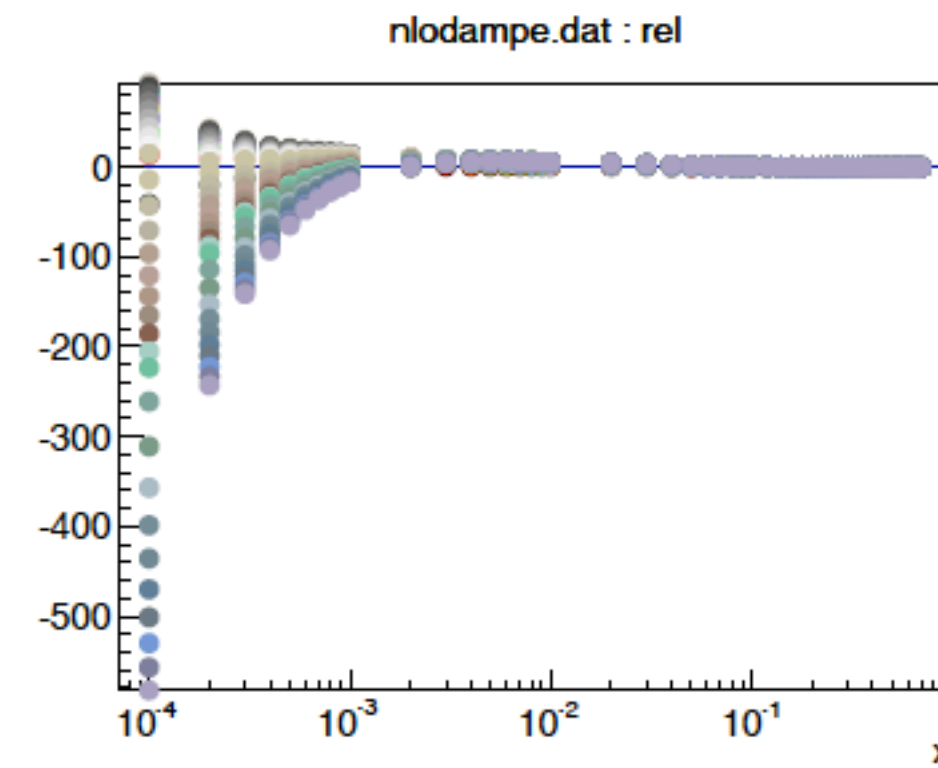
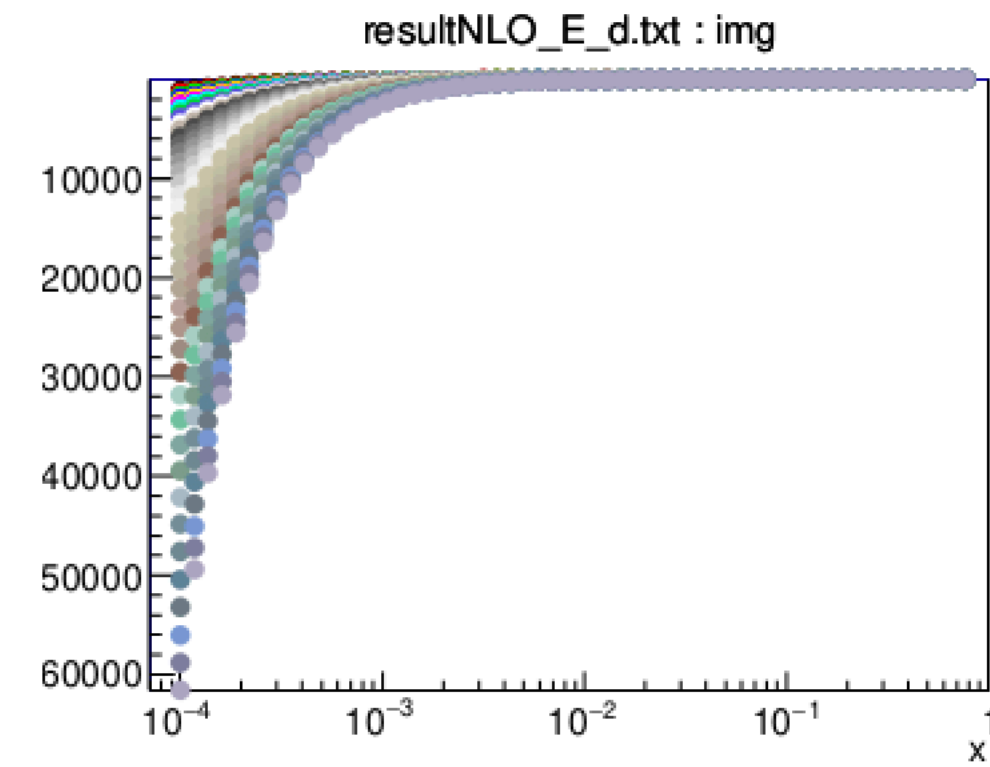
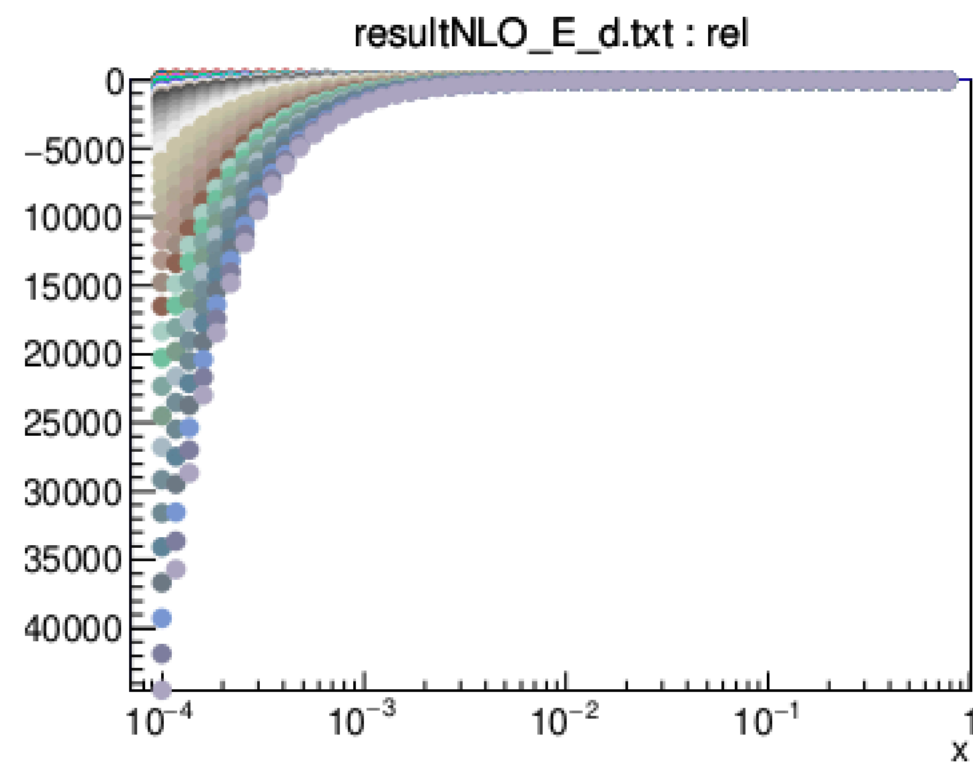
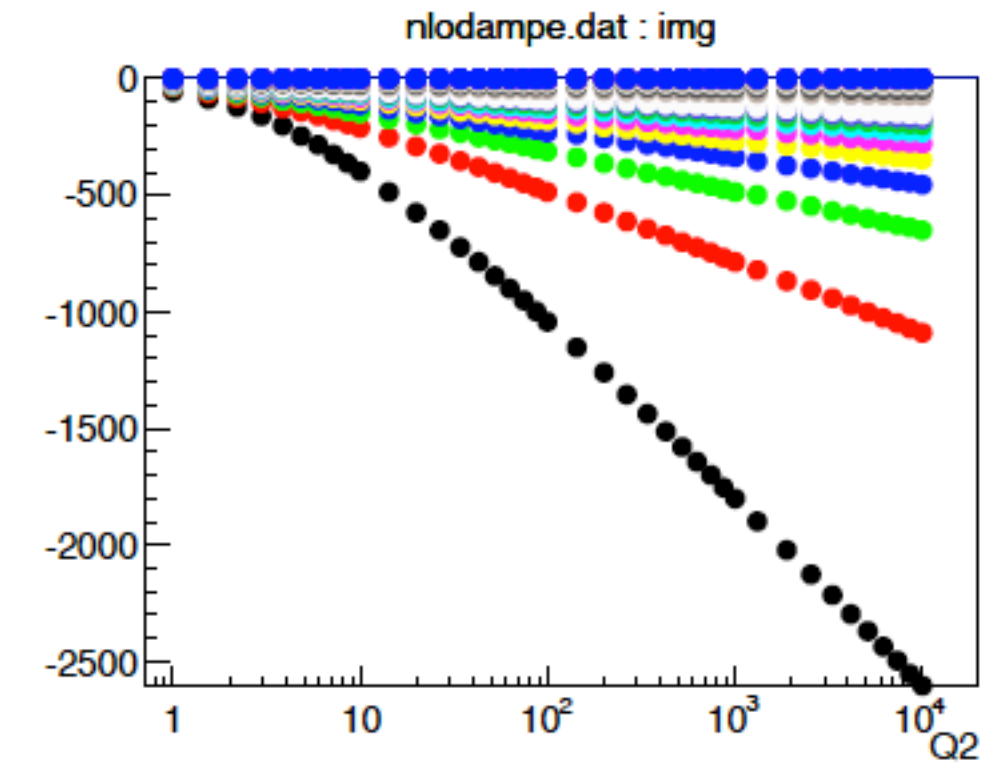
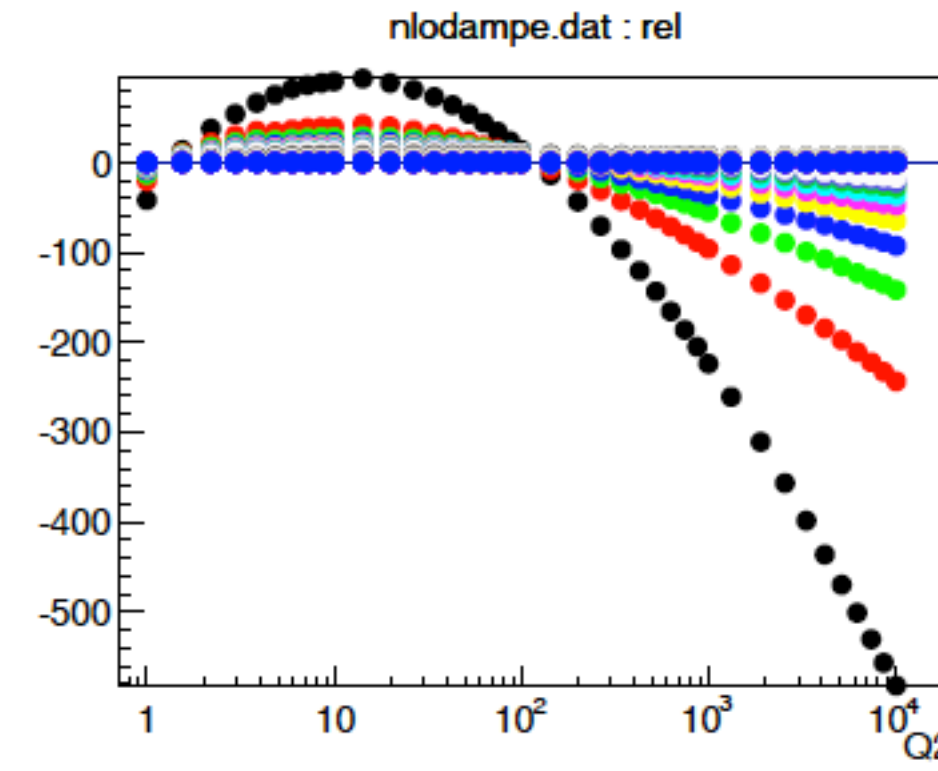
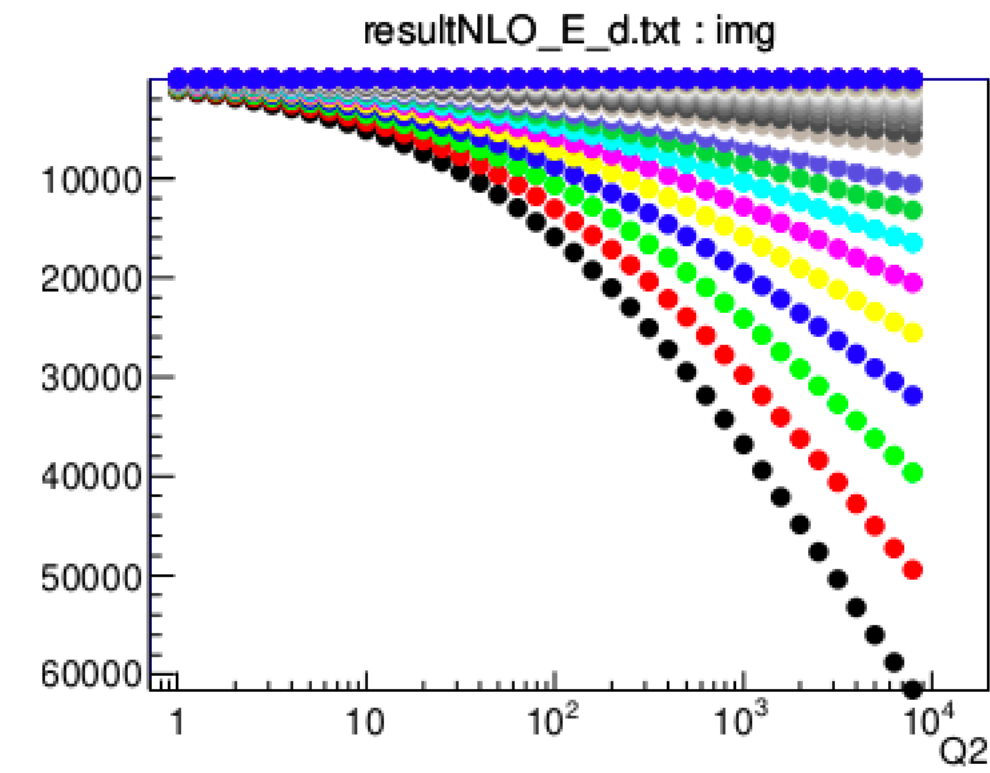
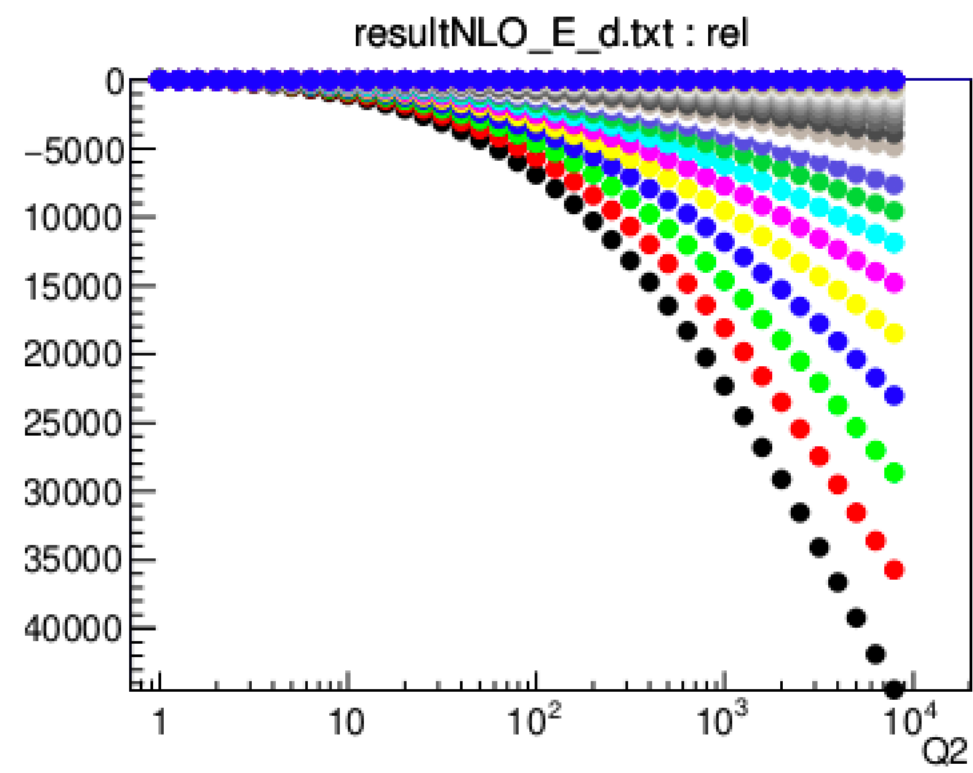
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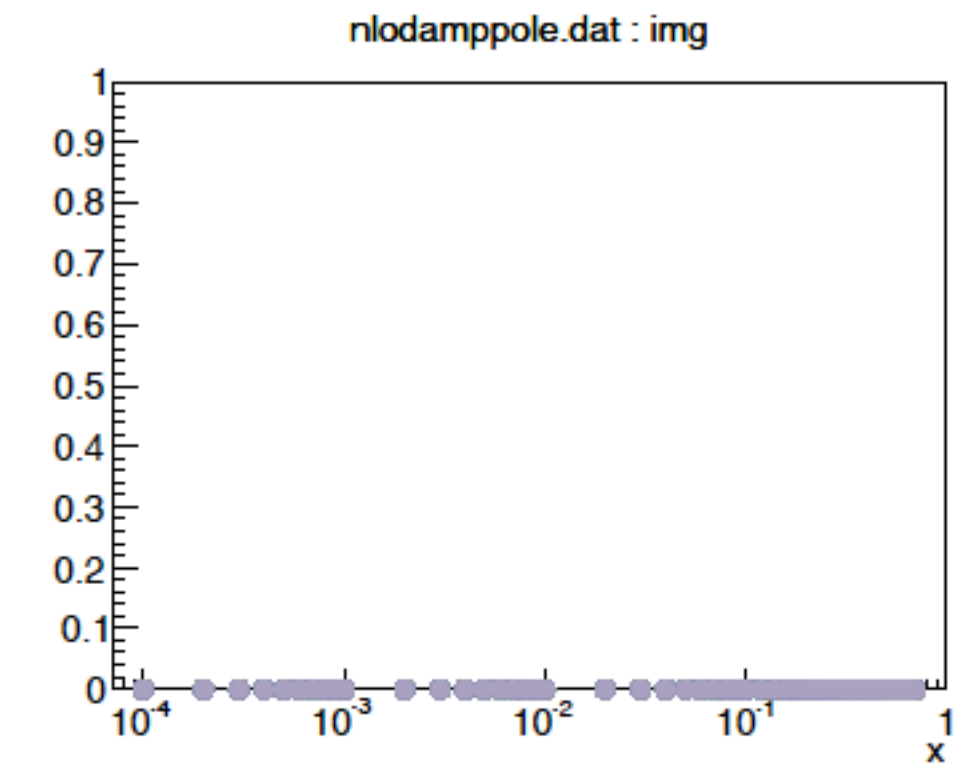
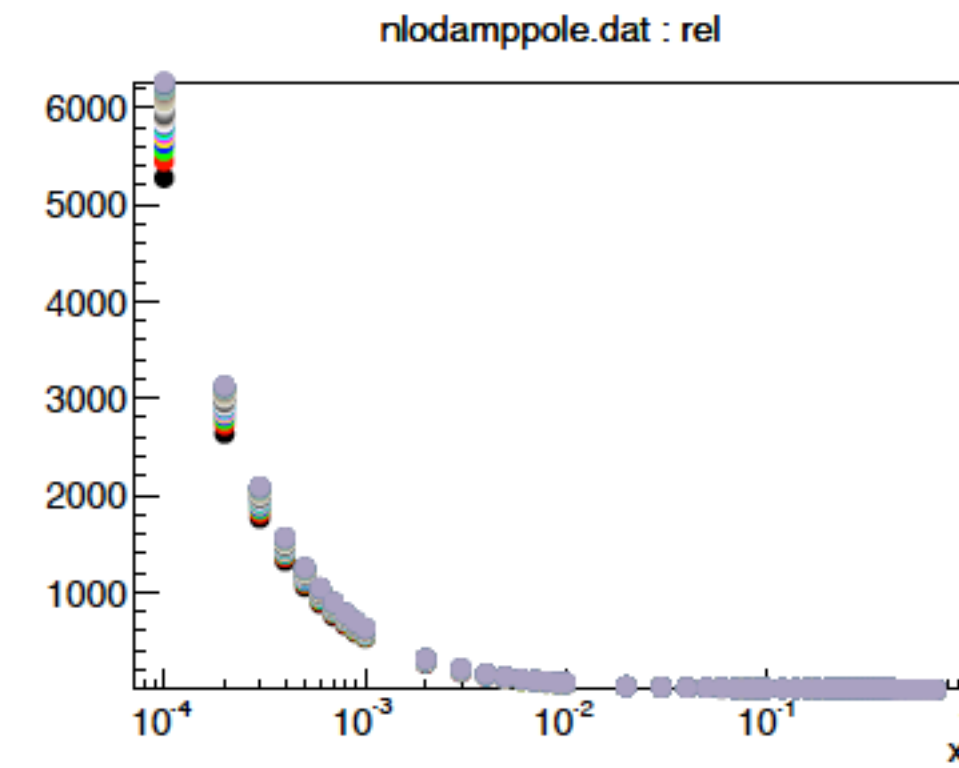
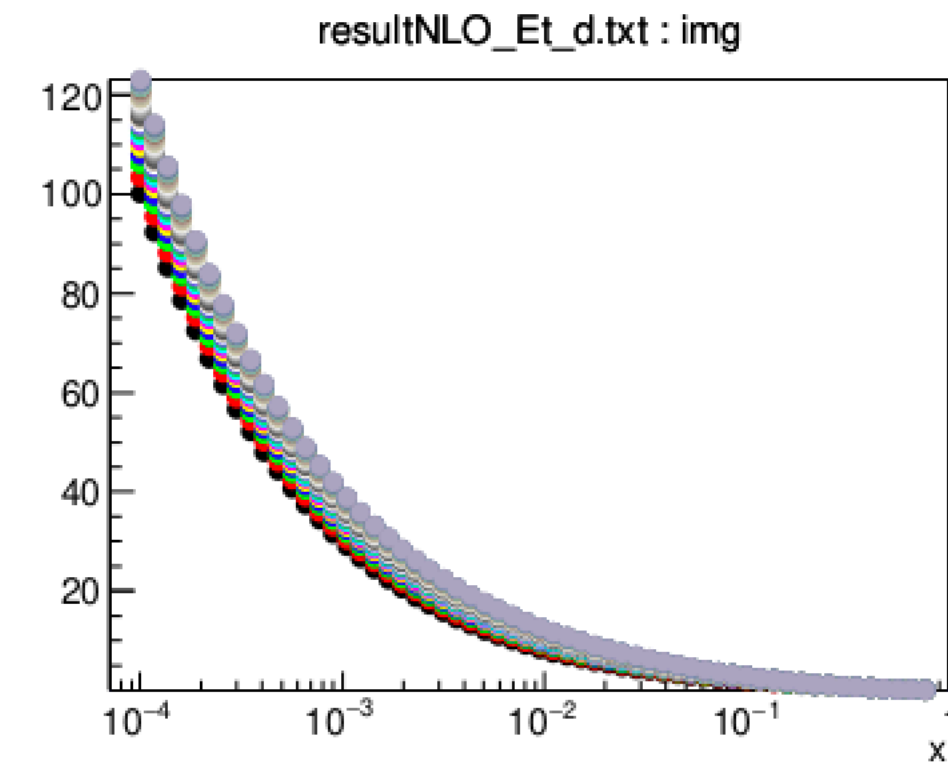
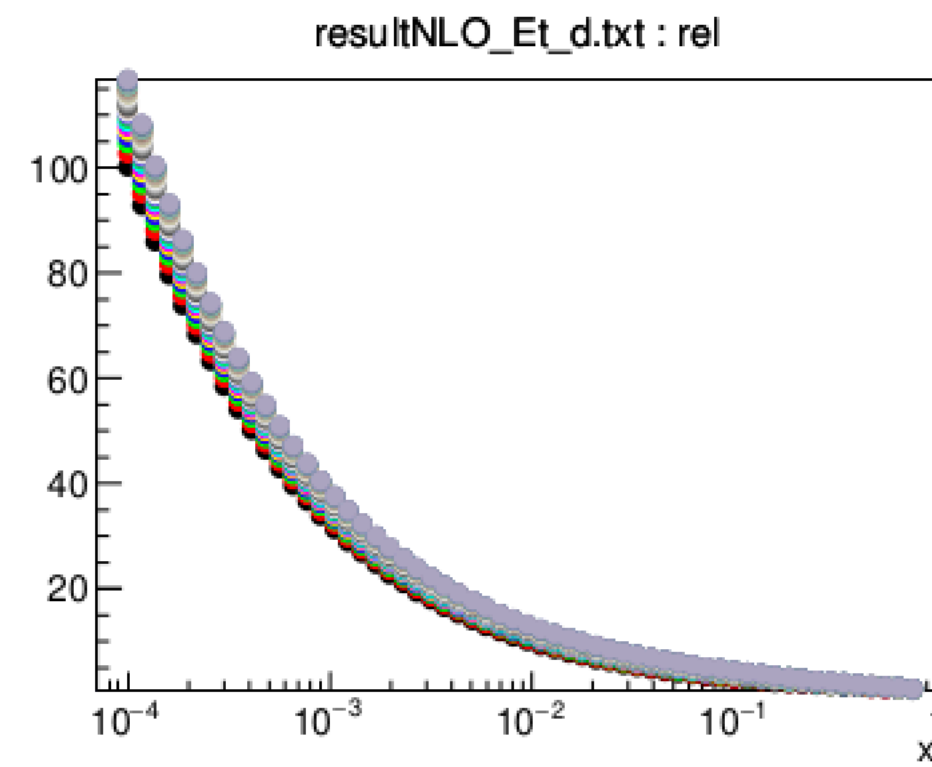
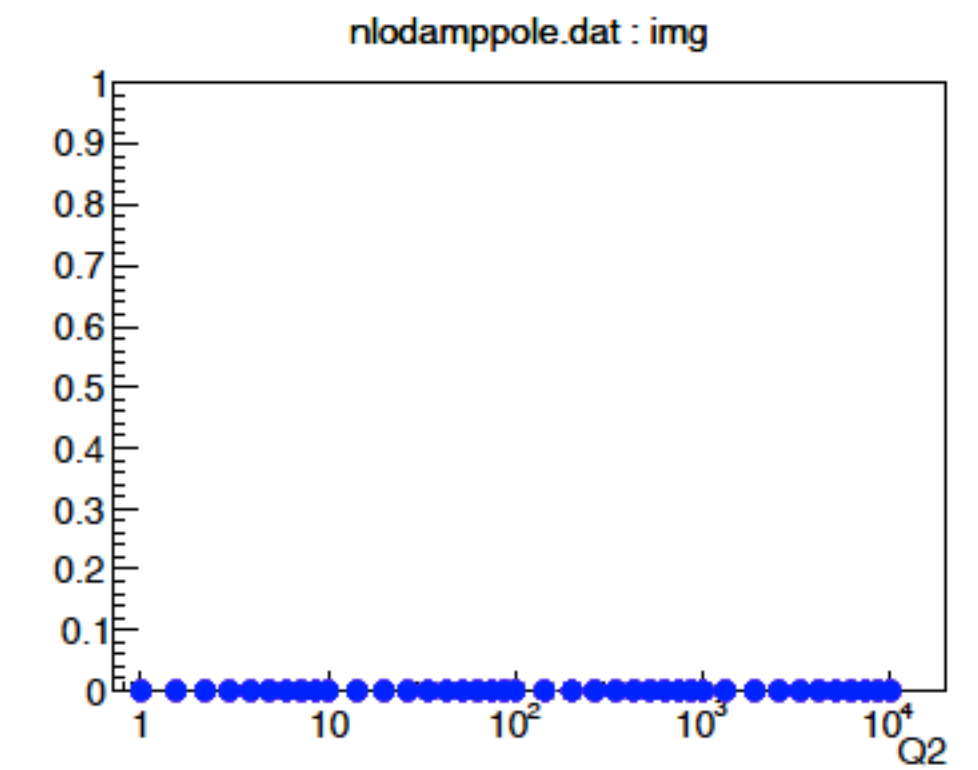
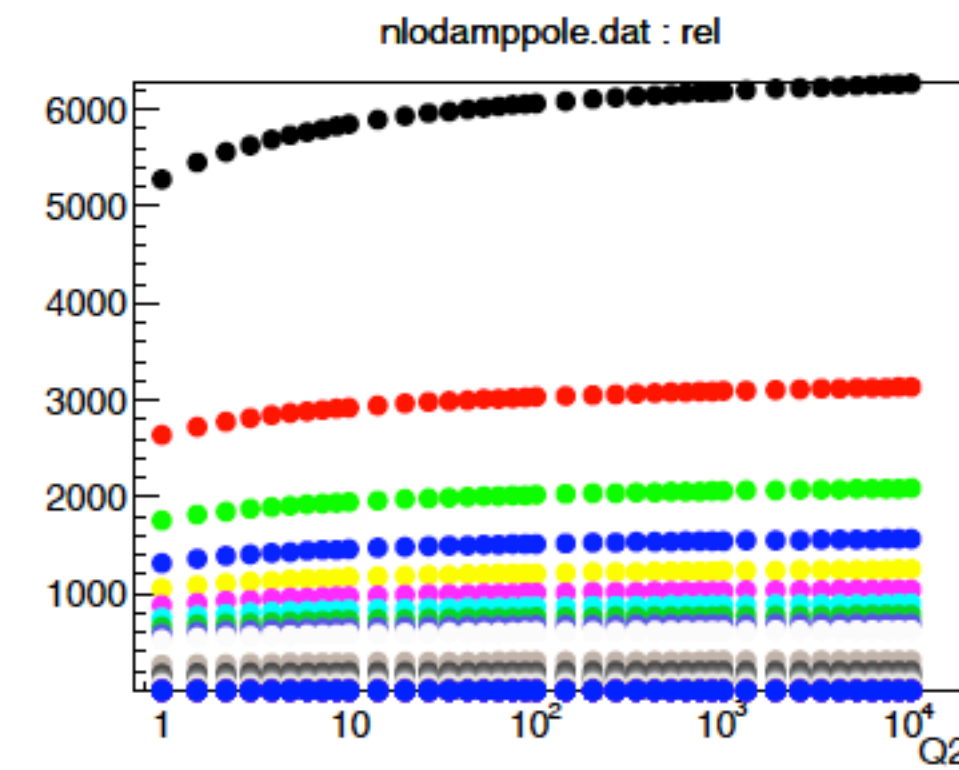
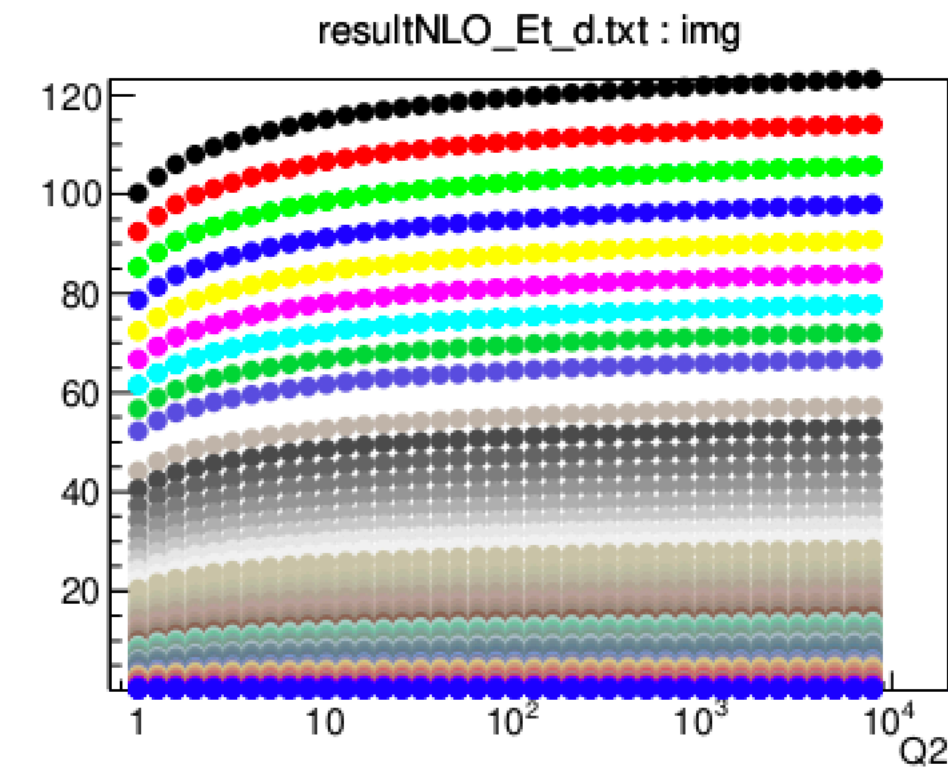
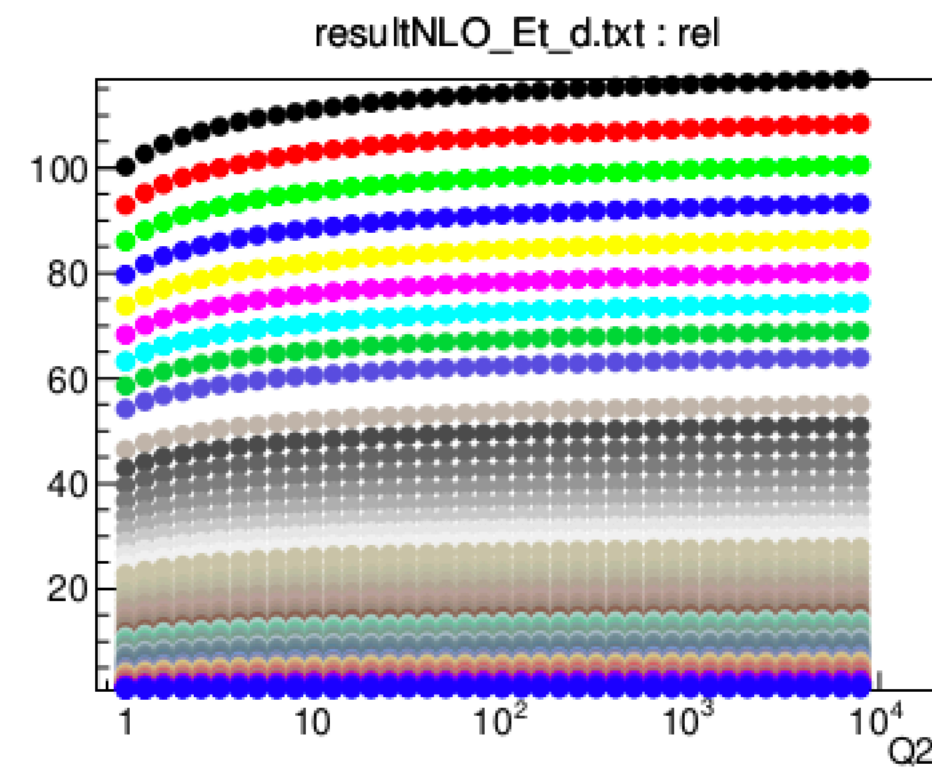
Down E NLO



Partons

Milou

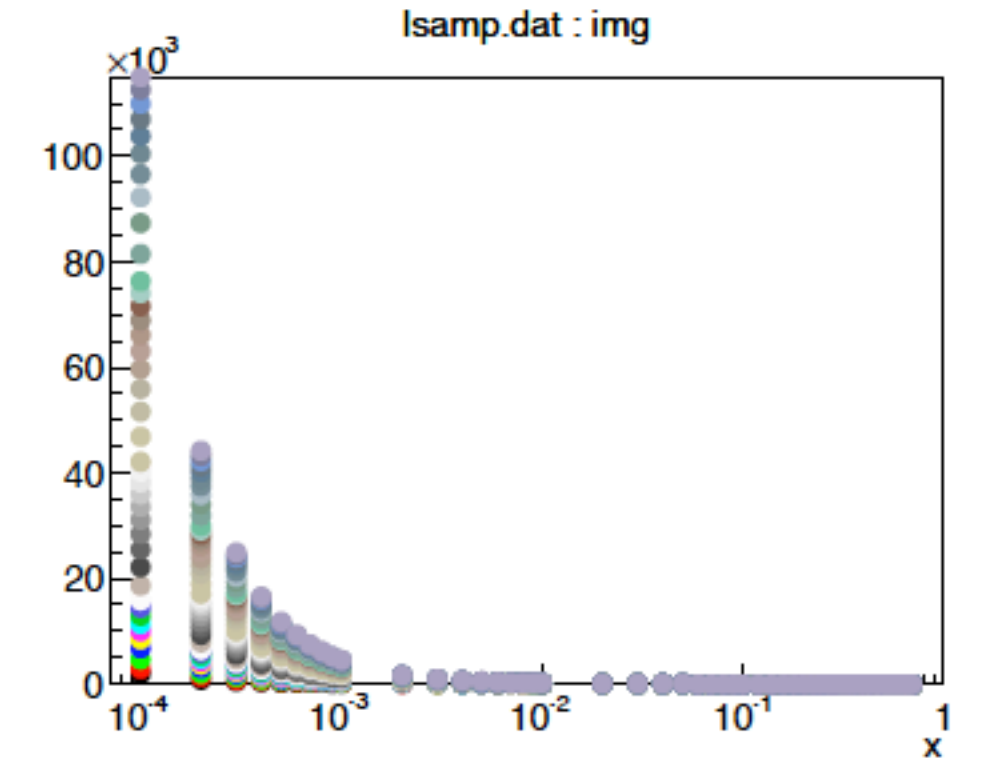
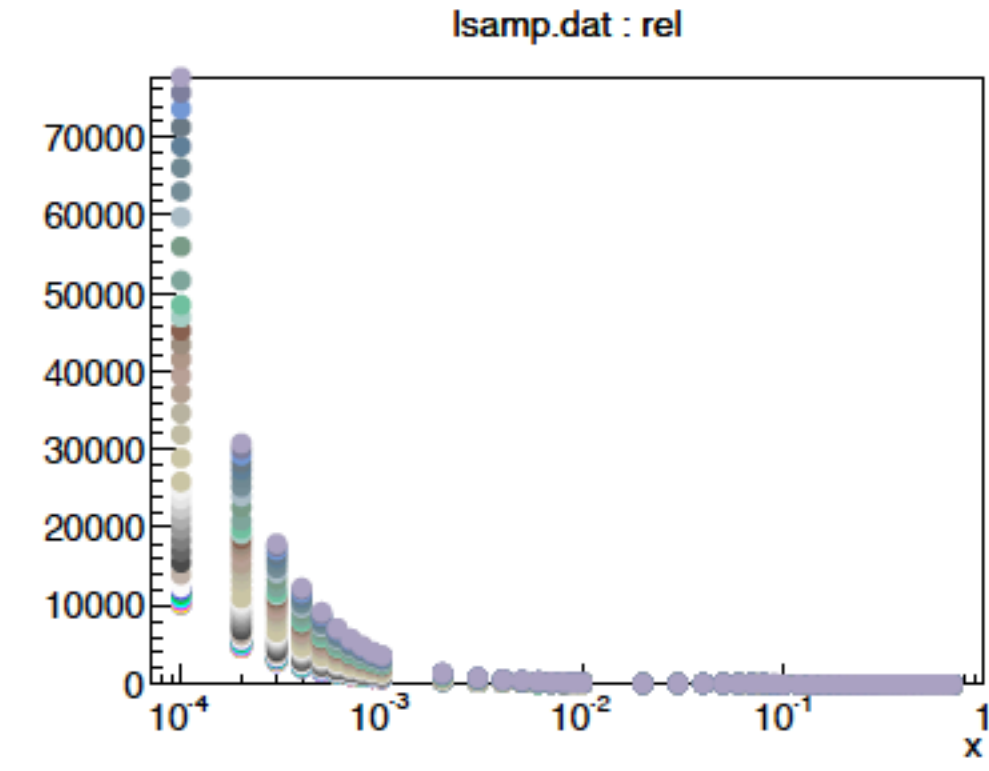
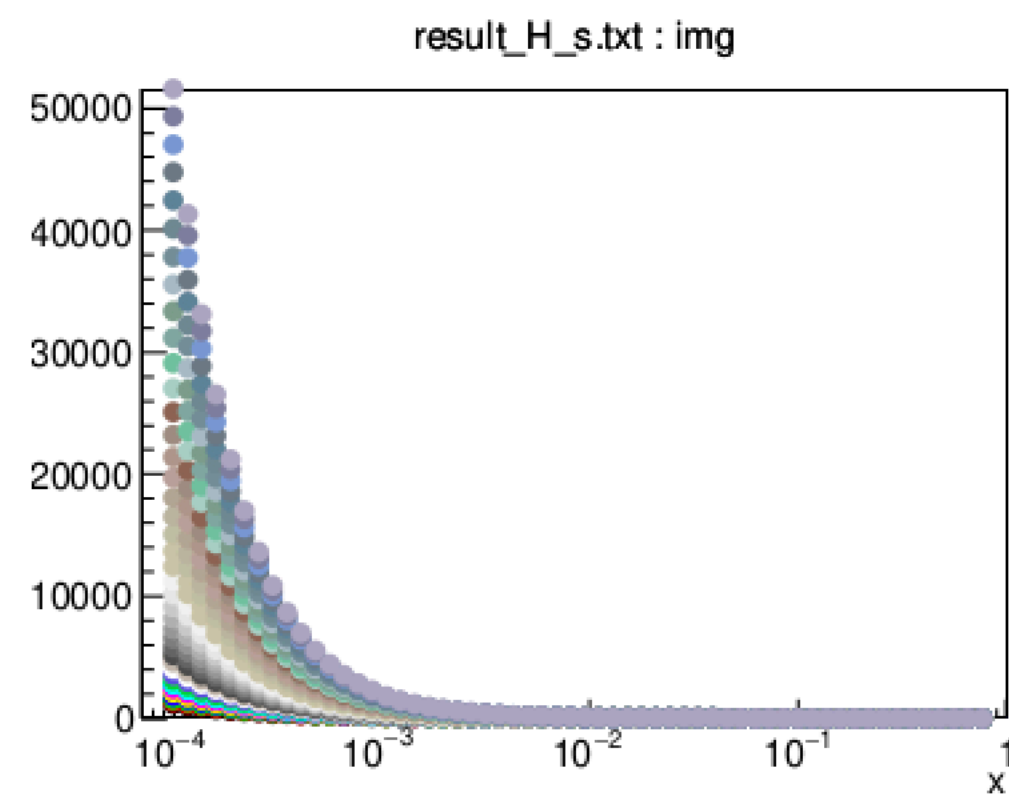
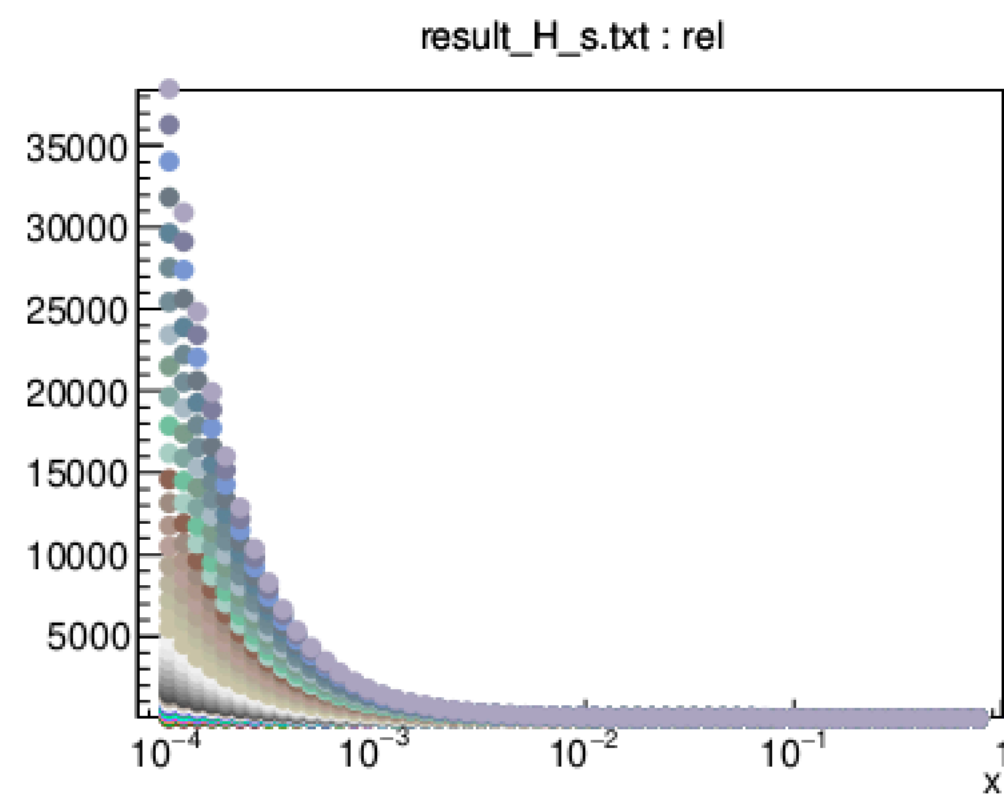
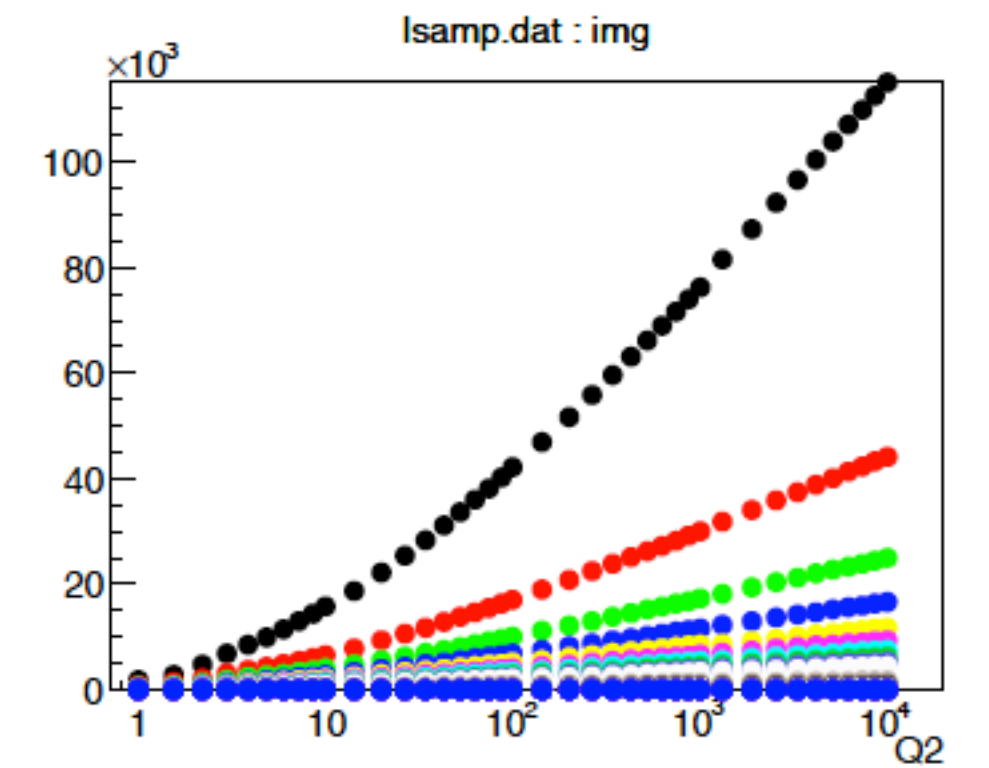
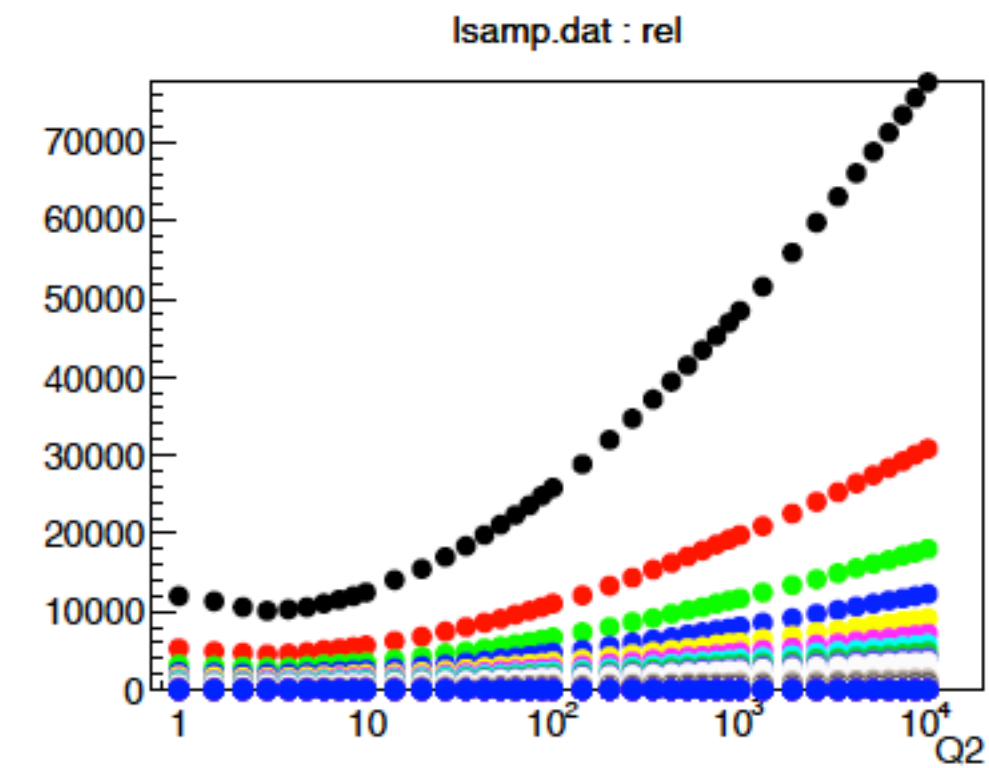
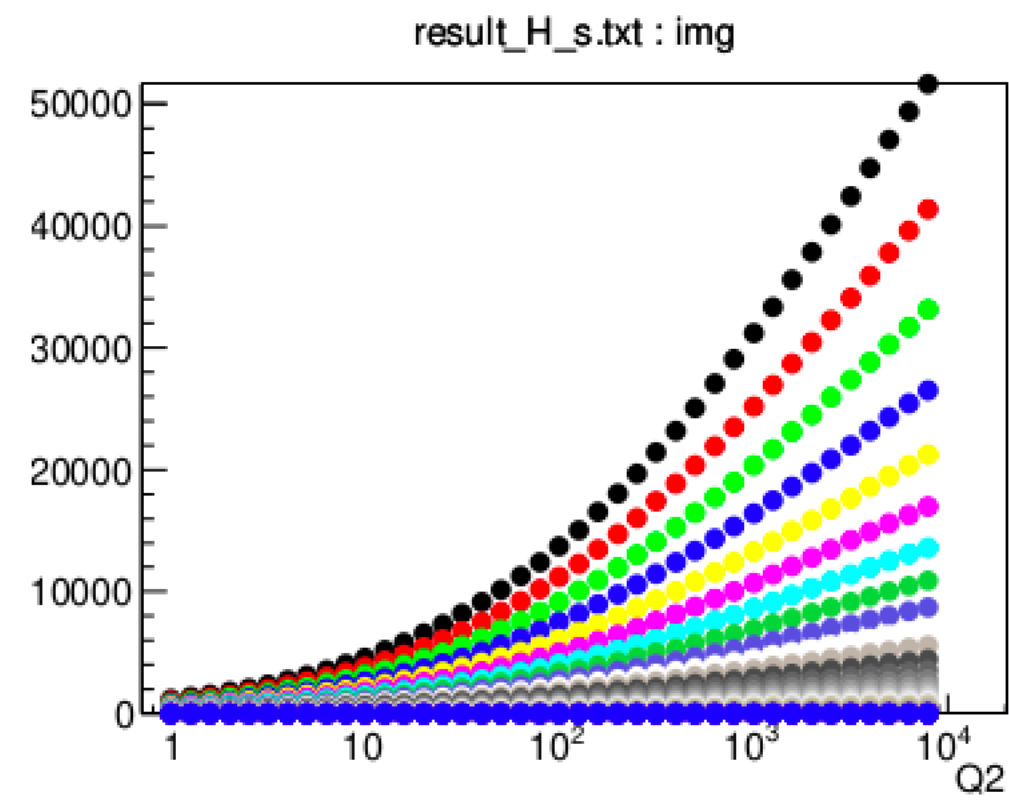
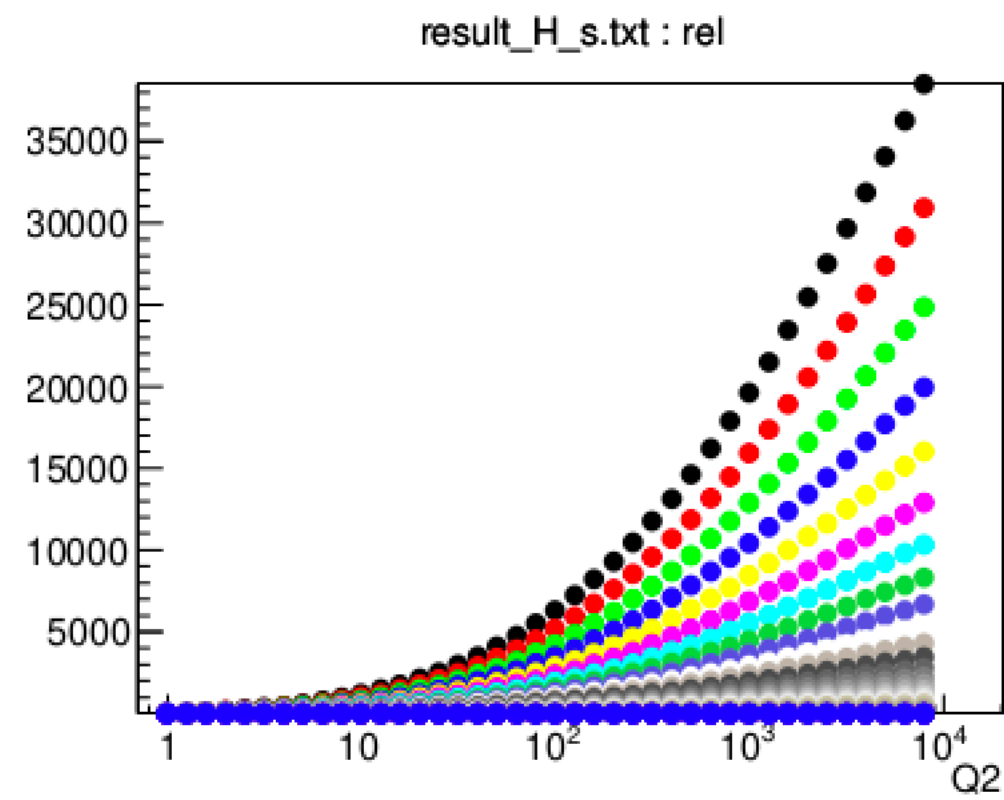
Down Et NLO



Partons

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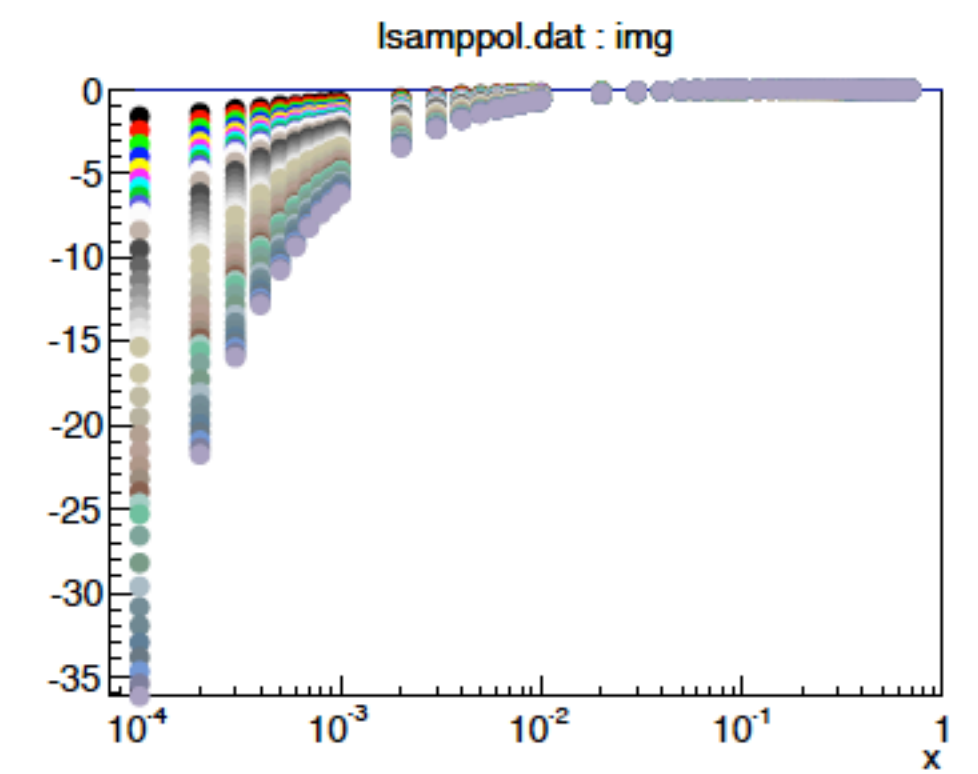
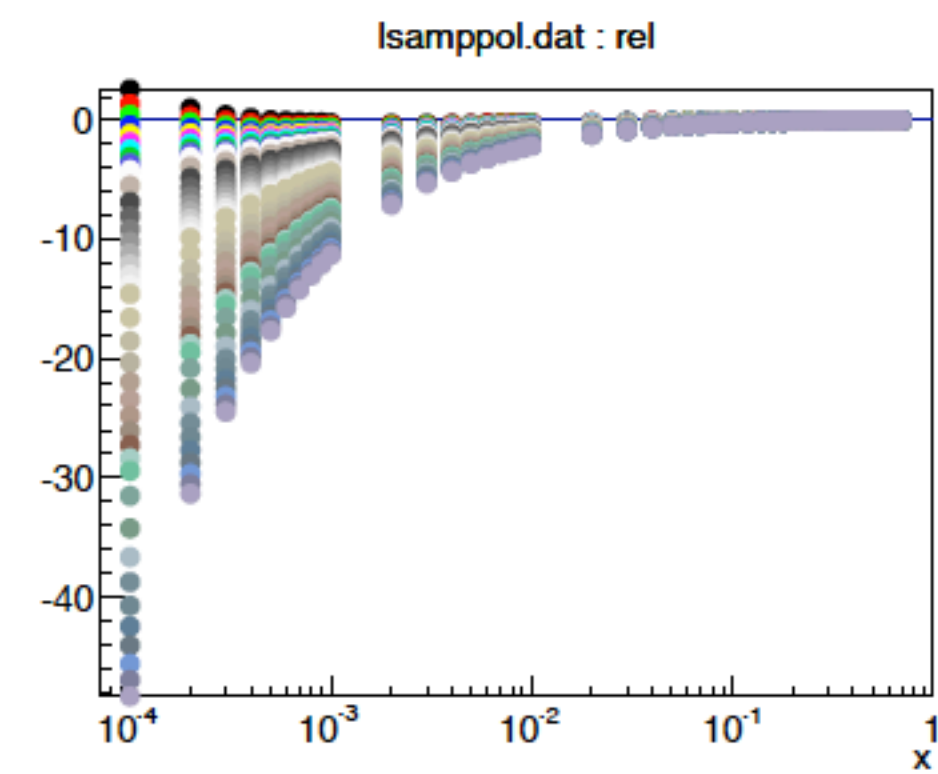
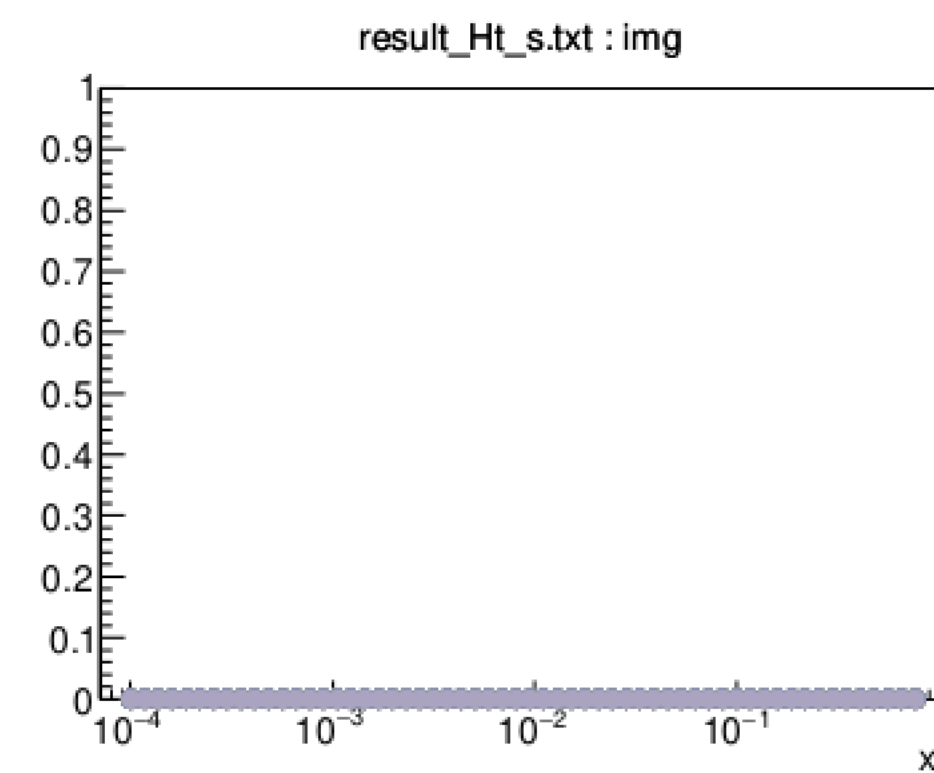
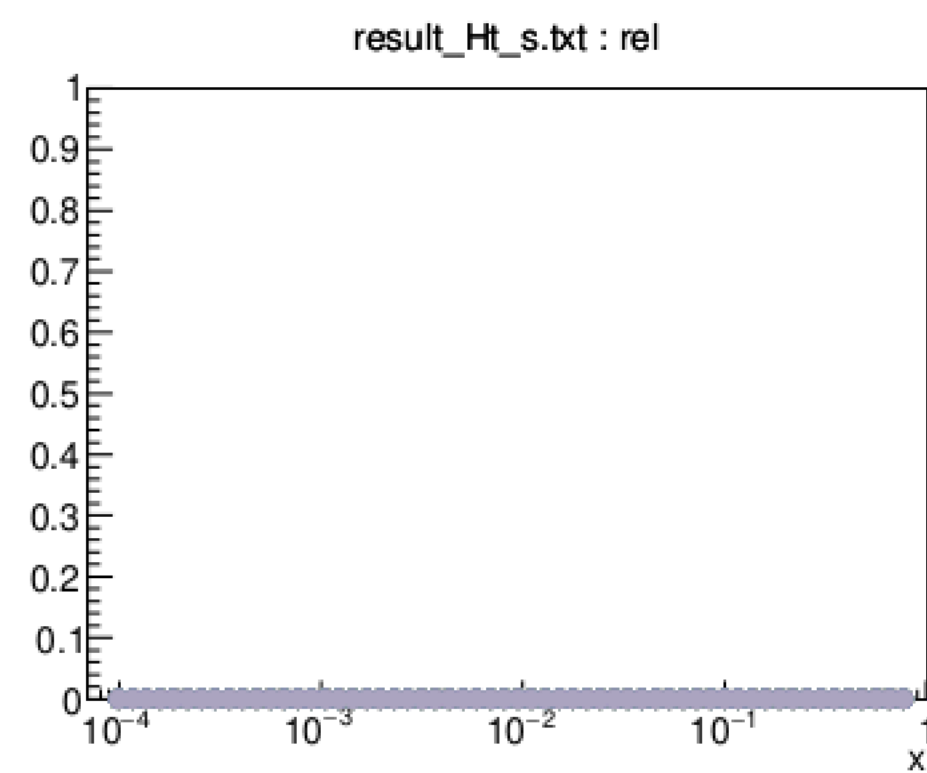
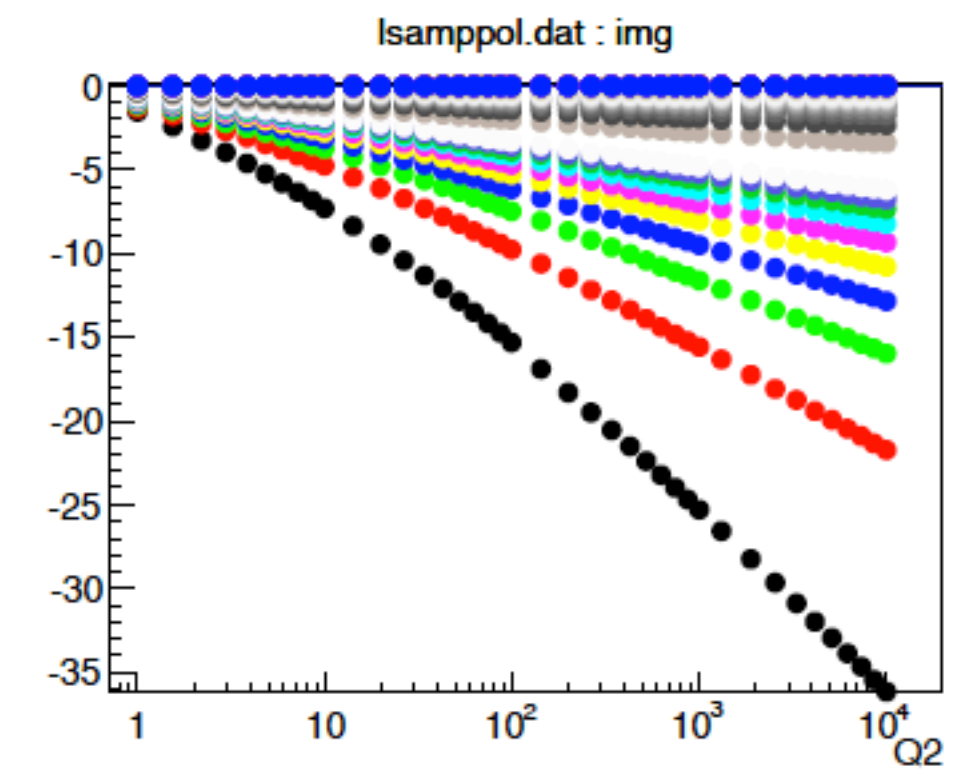
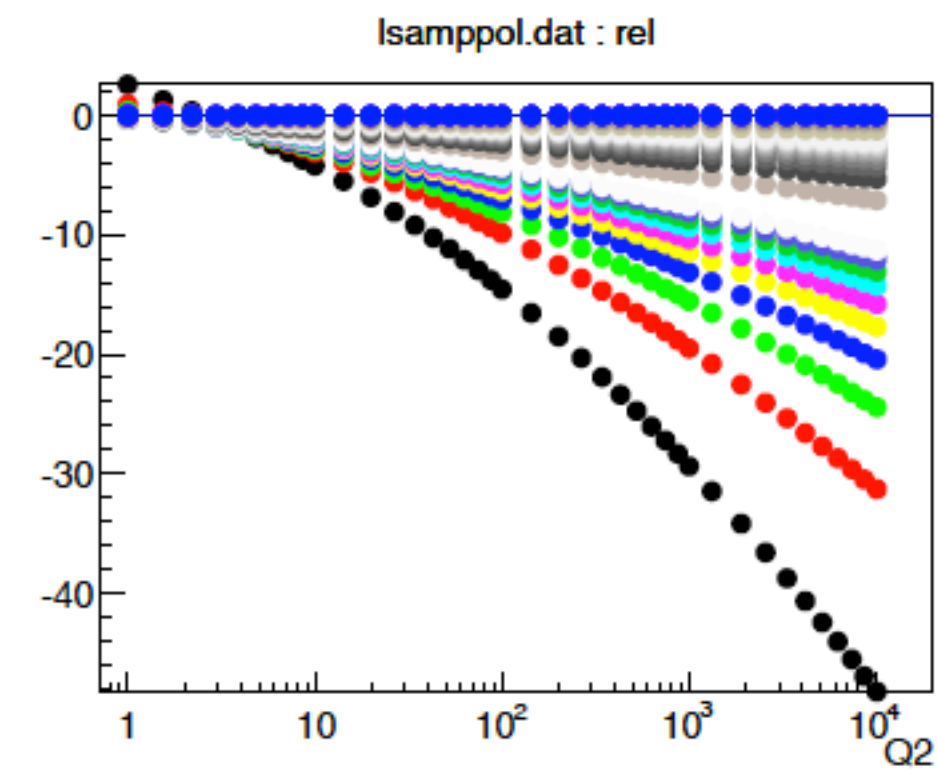
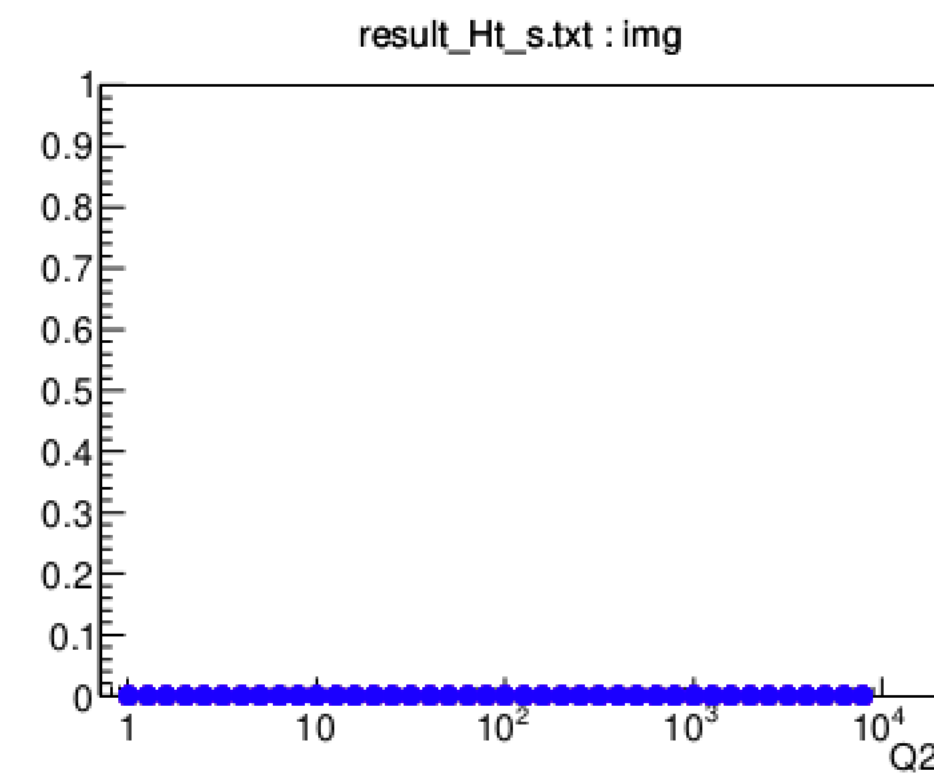
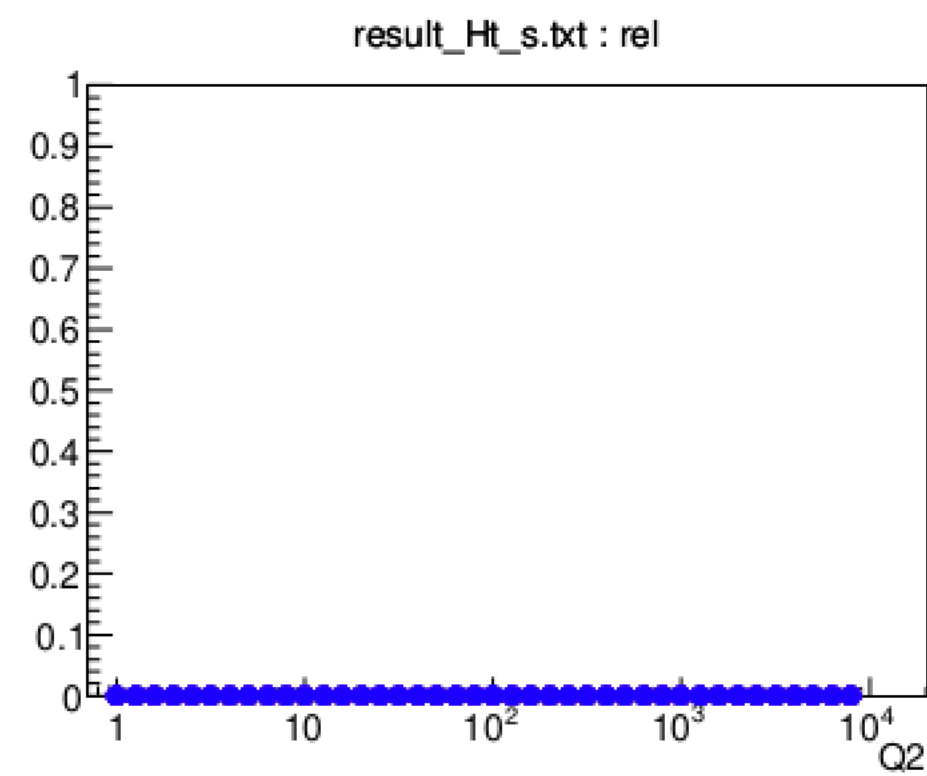
Strange H LO



Partons

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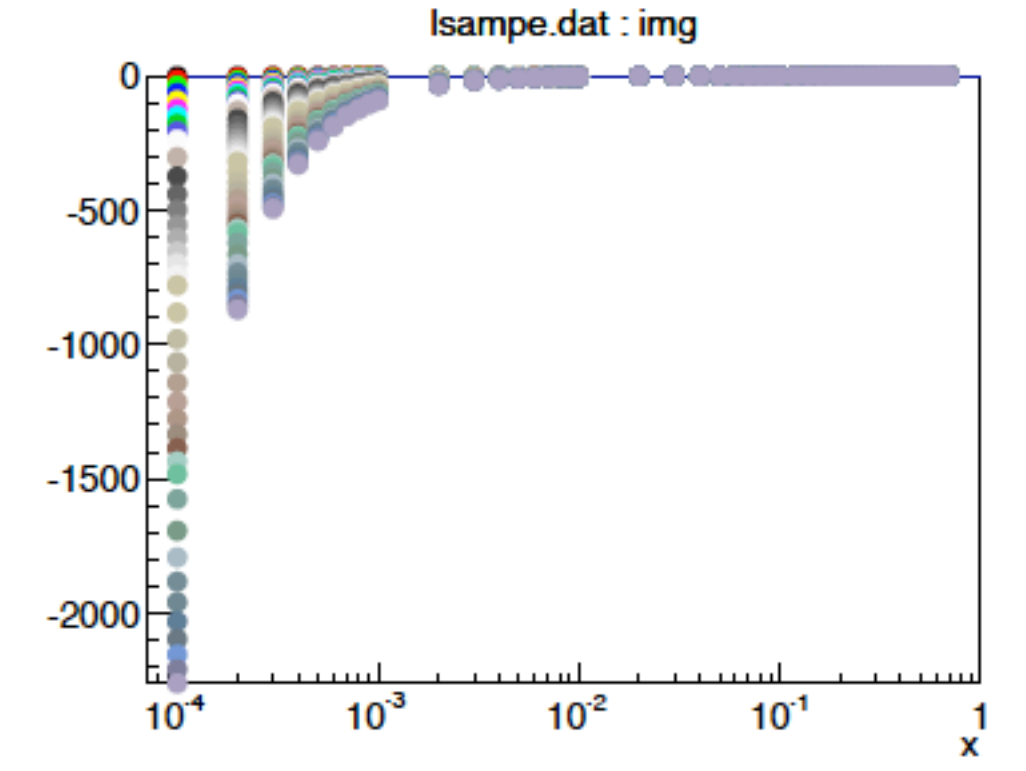
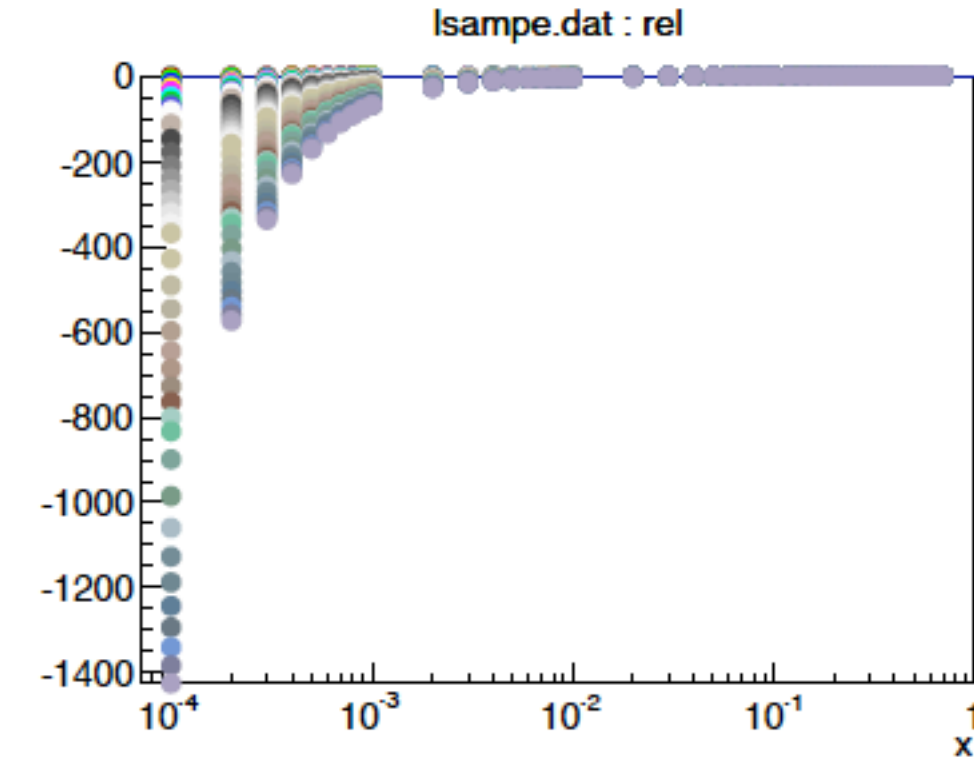
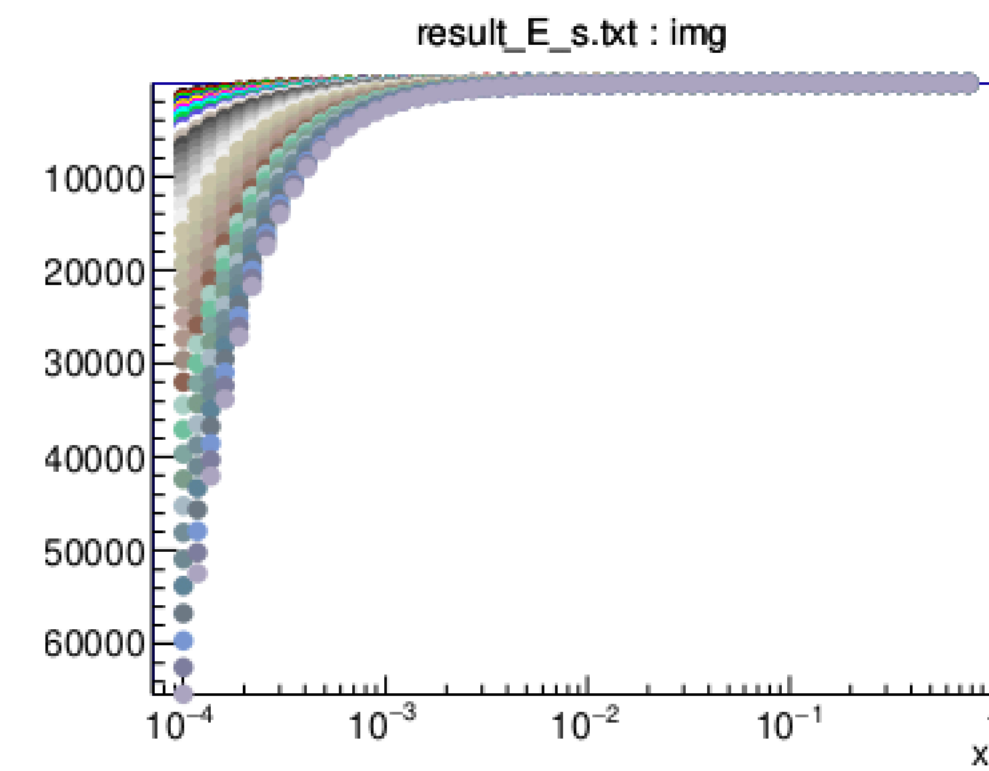
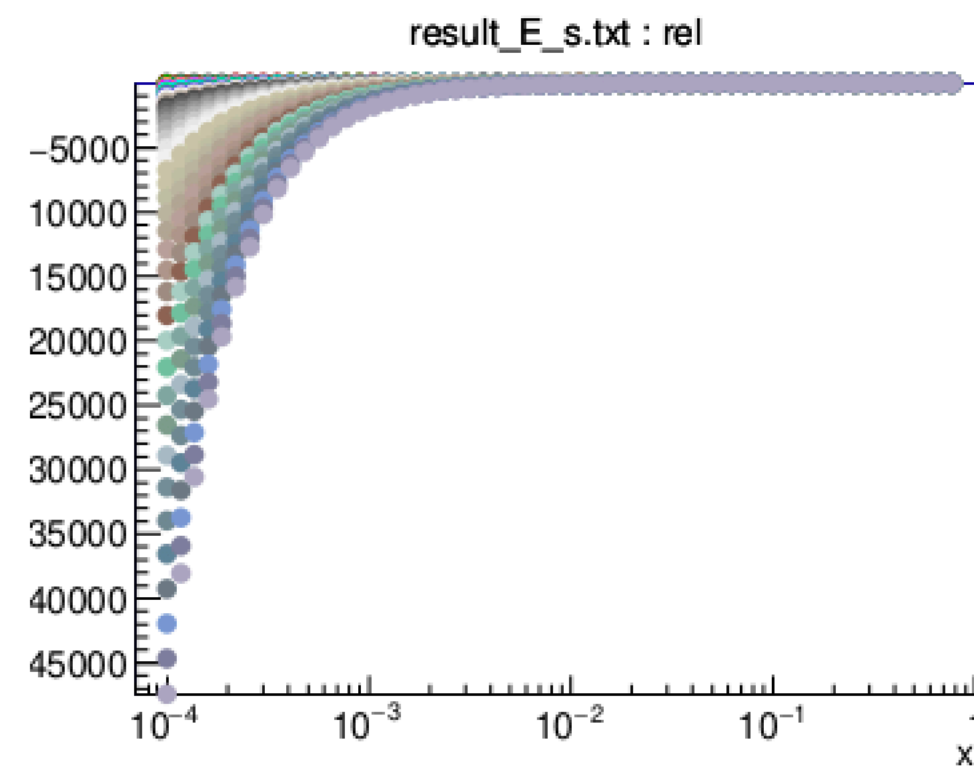
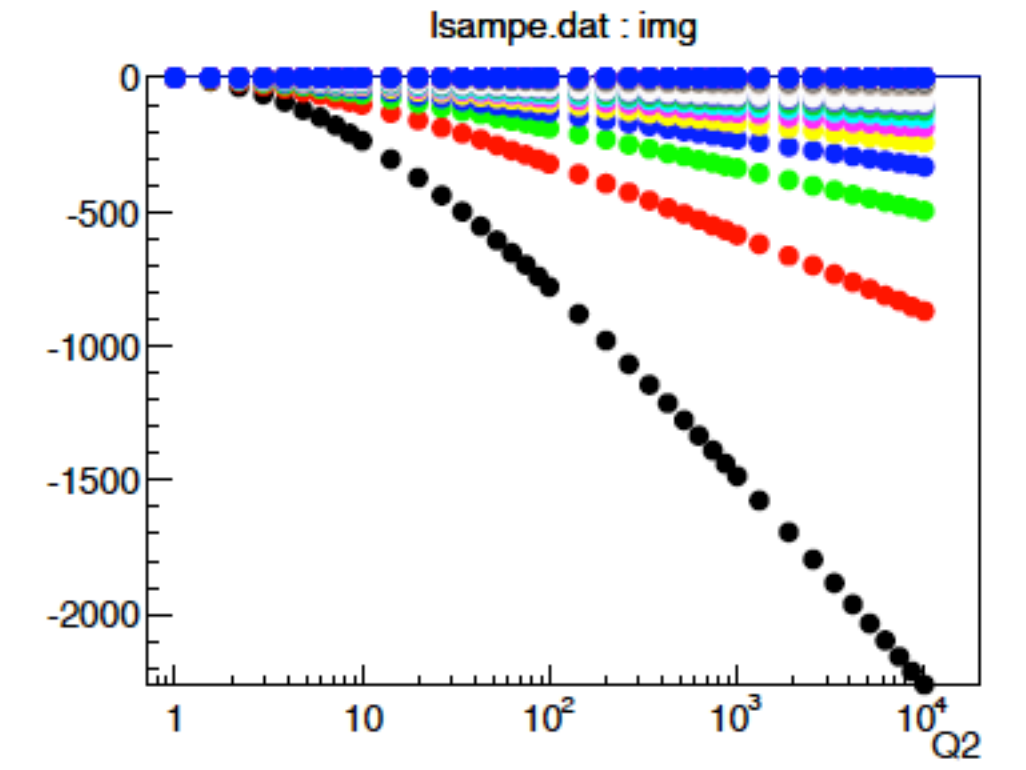
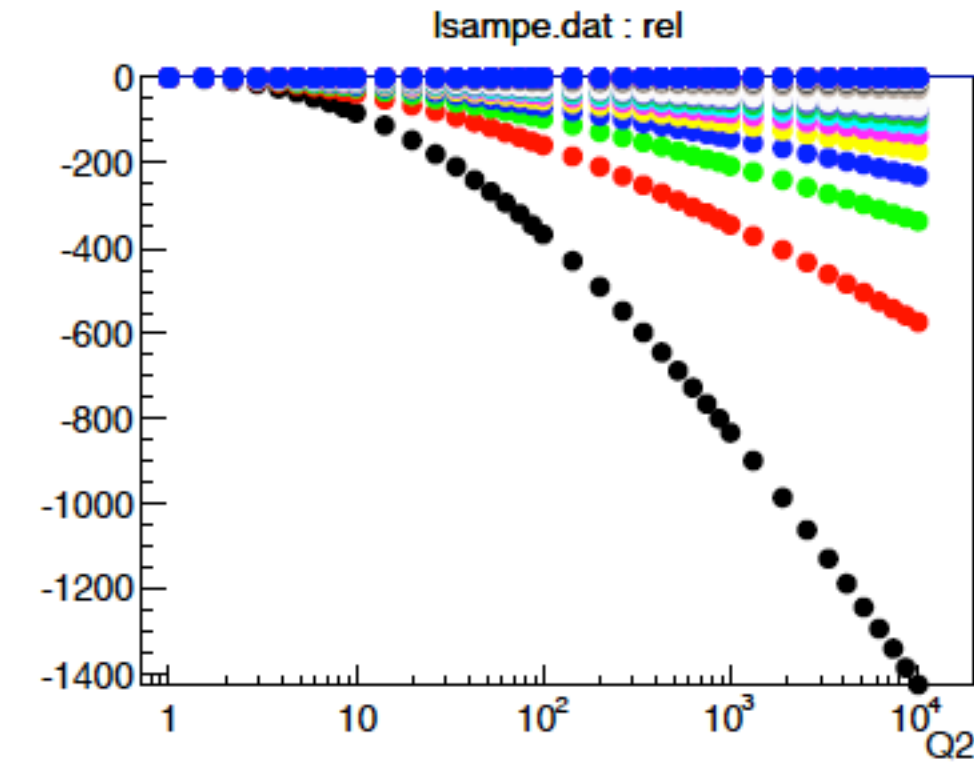
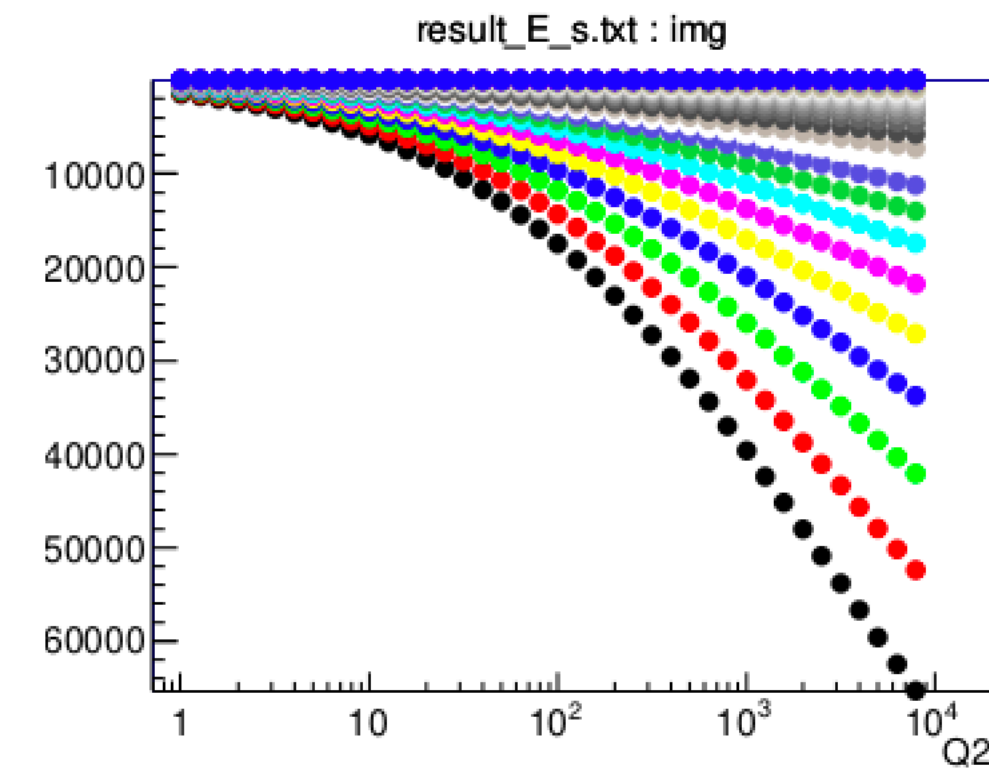
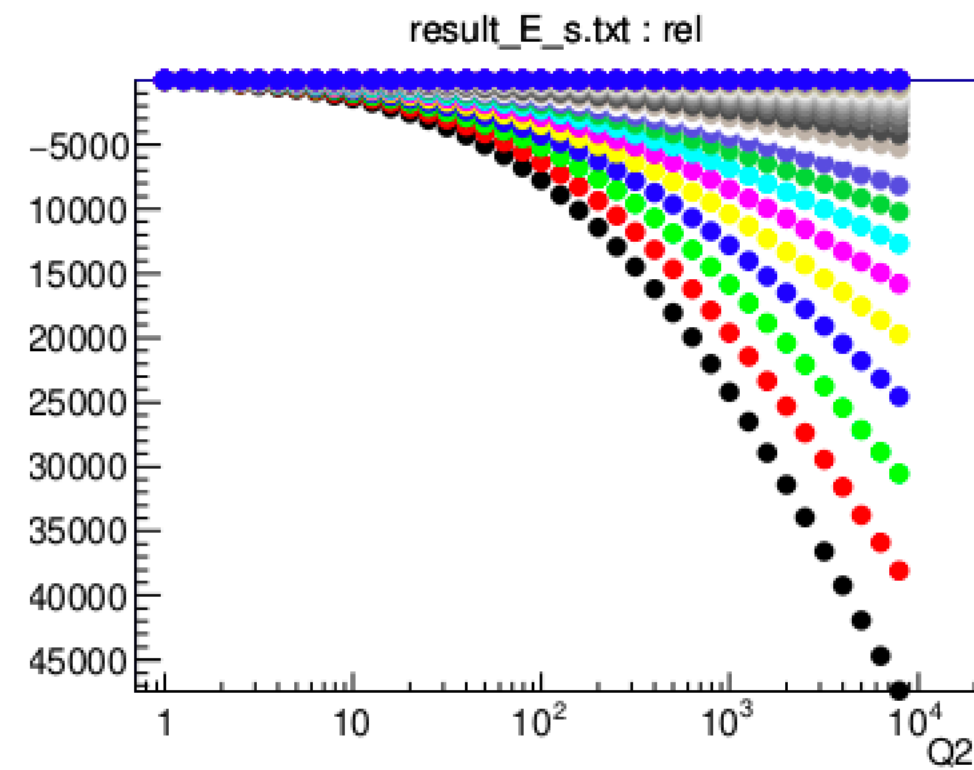
Strange Ht LO



Partons

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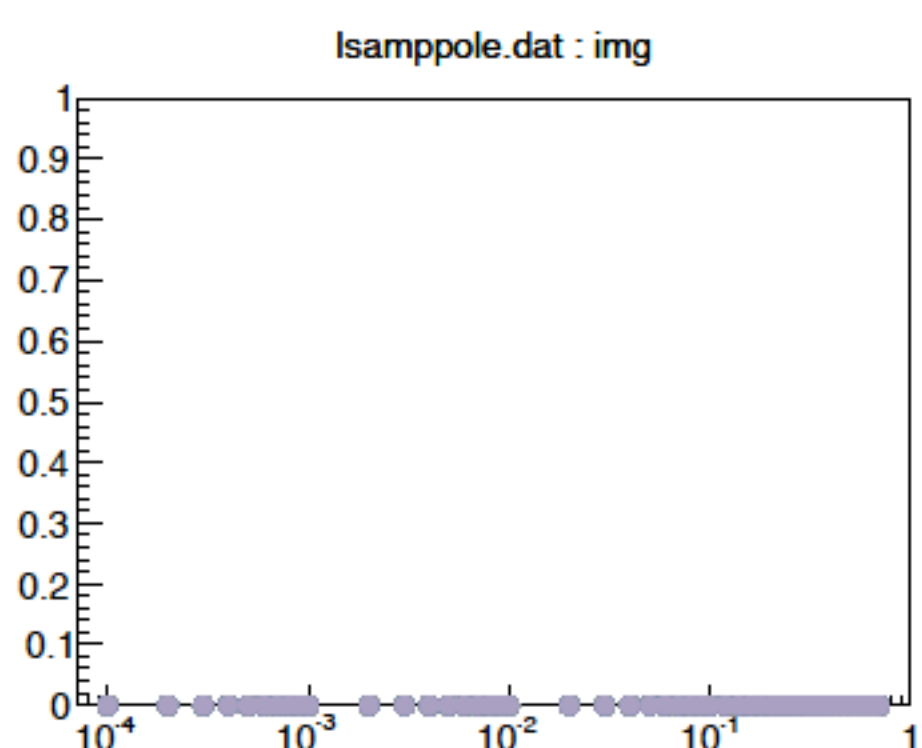
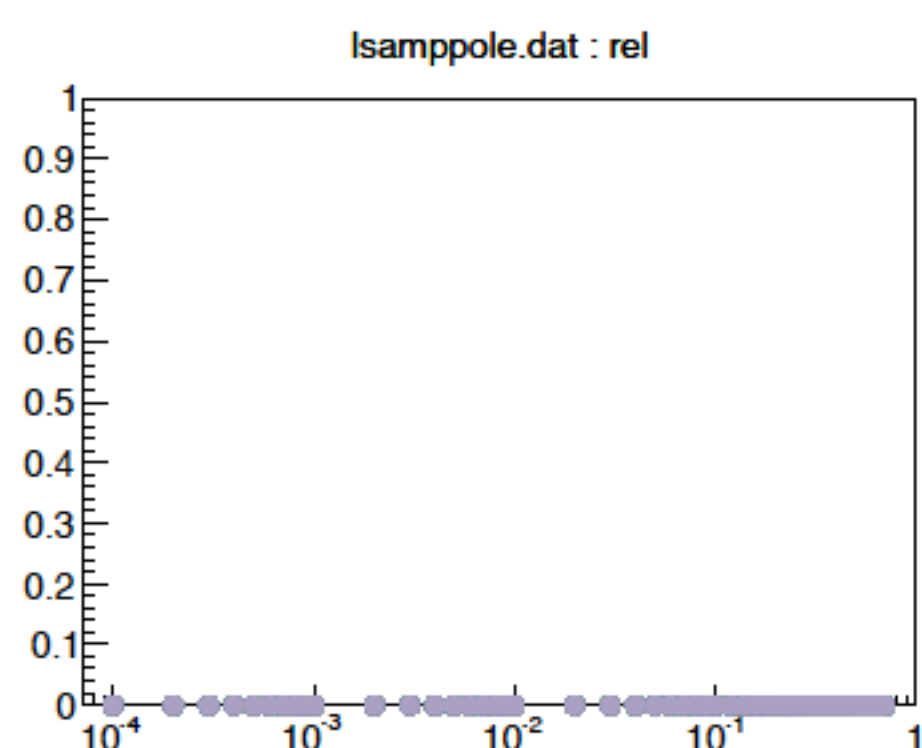
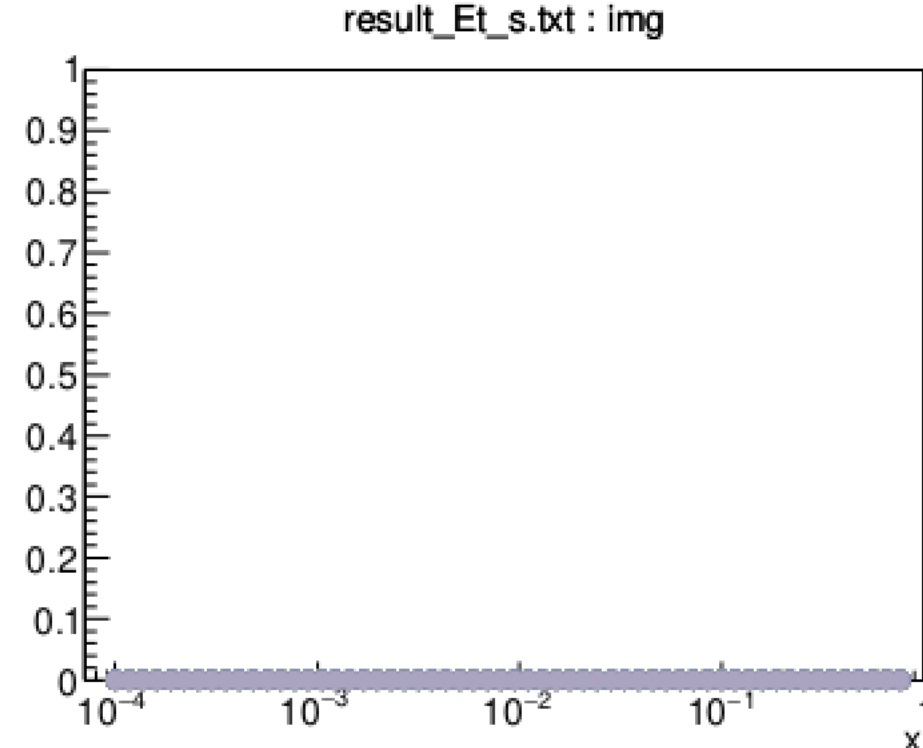
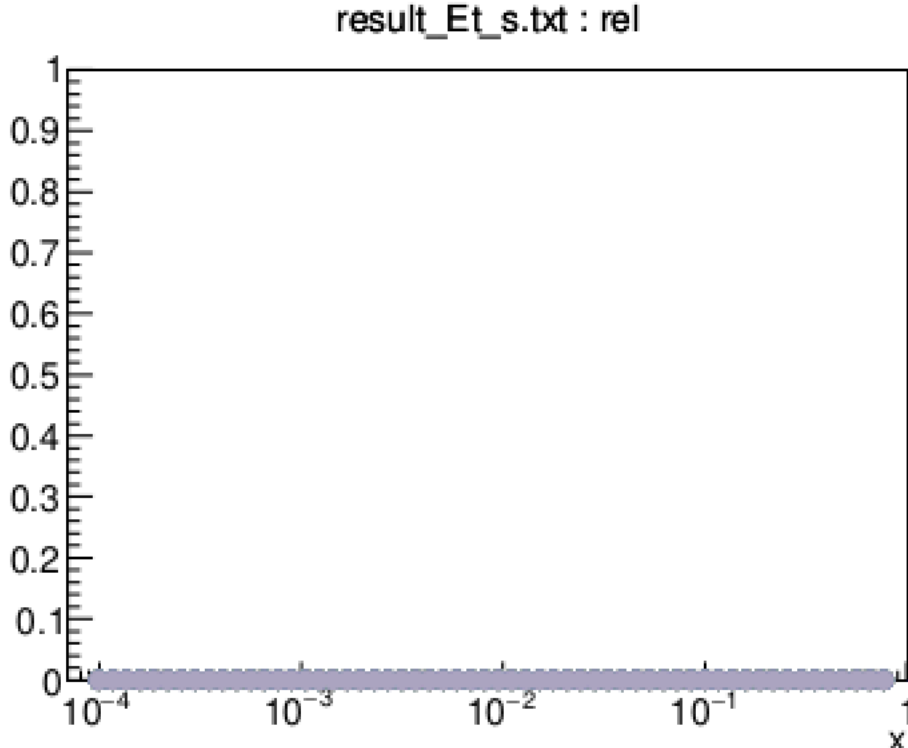
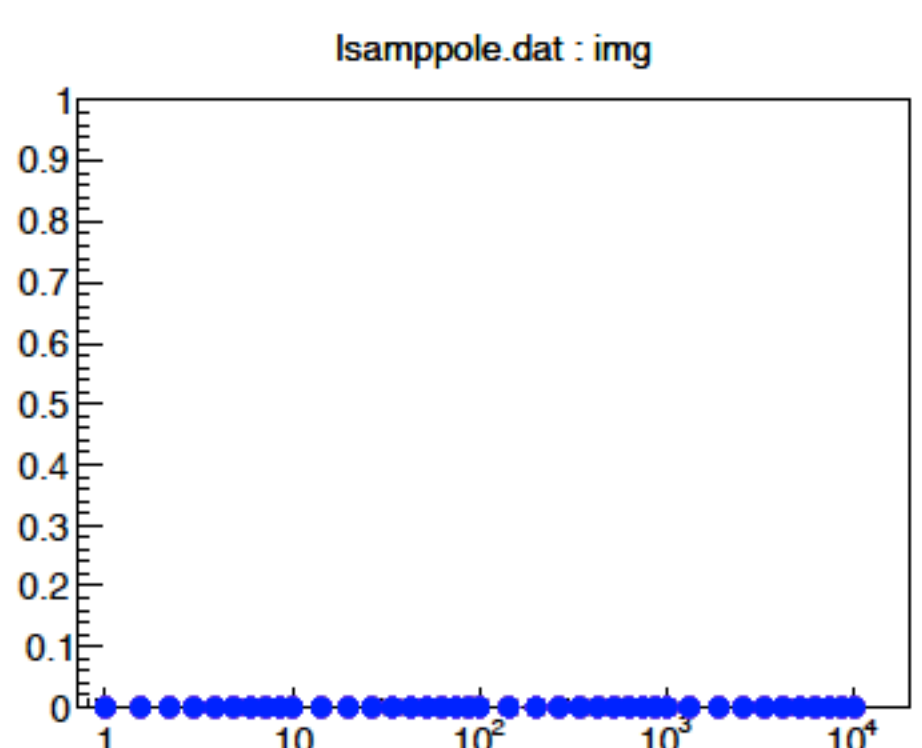
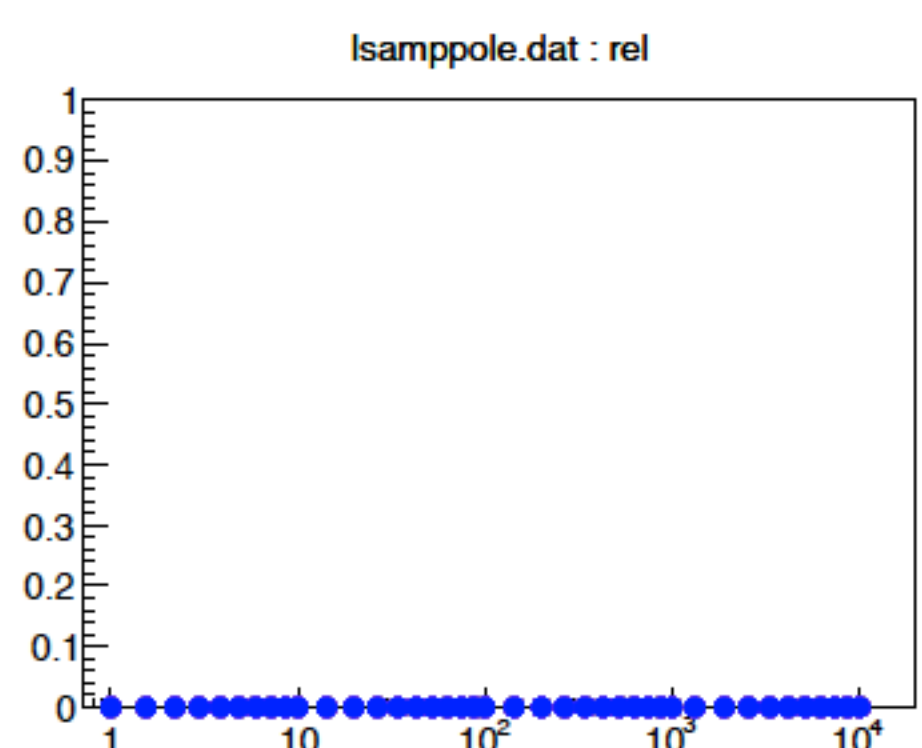
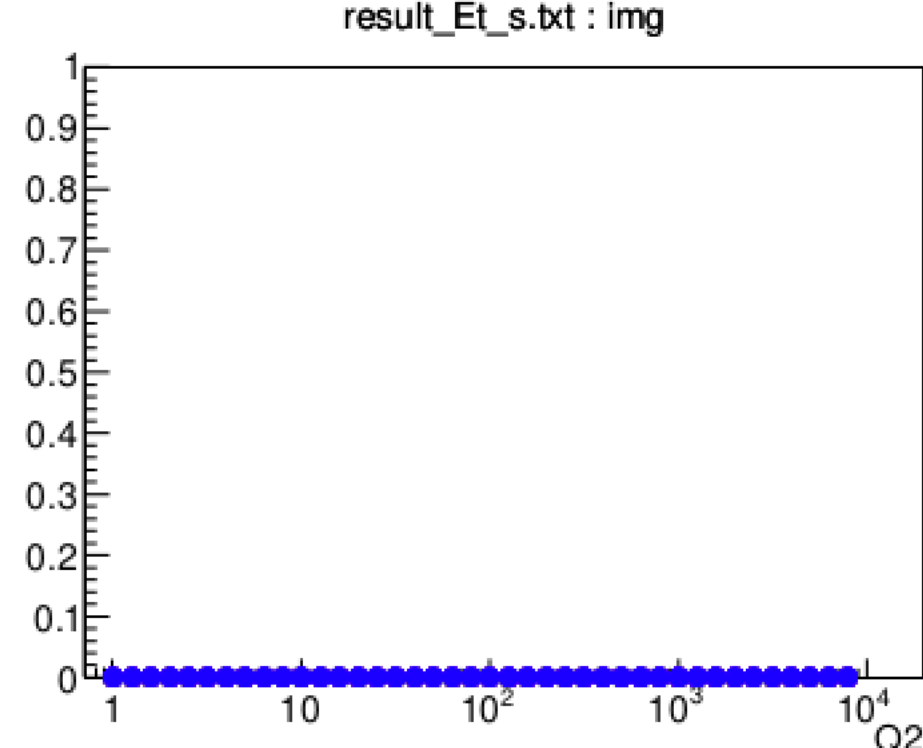
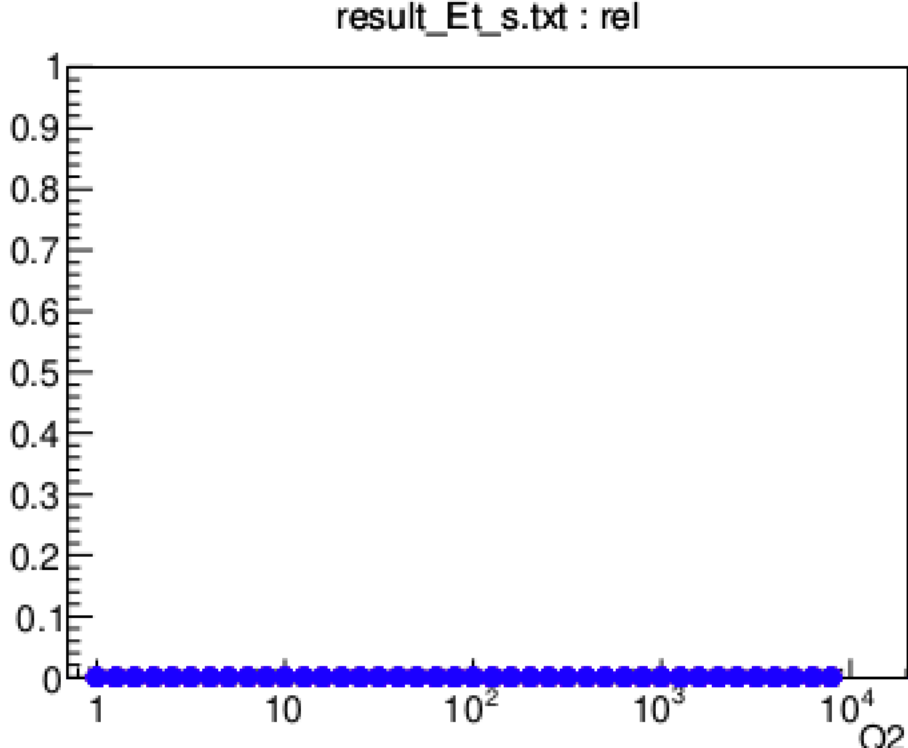
Strange E LO



Partons

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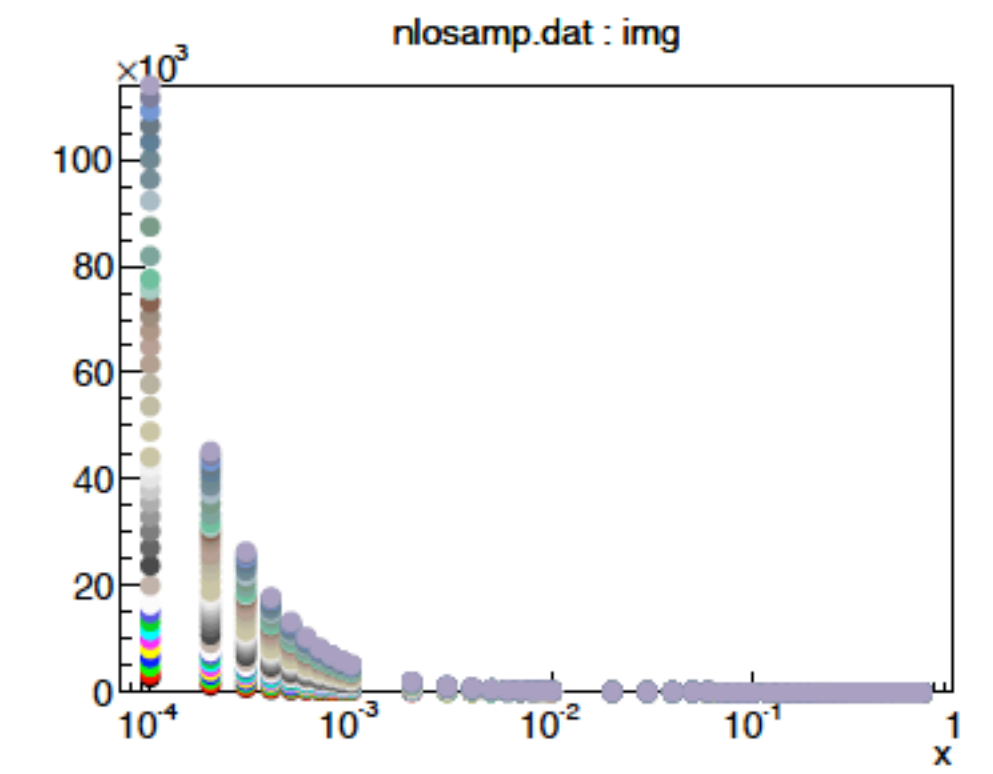
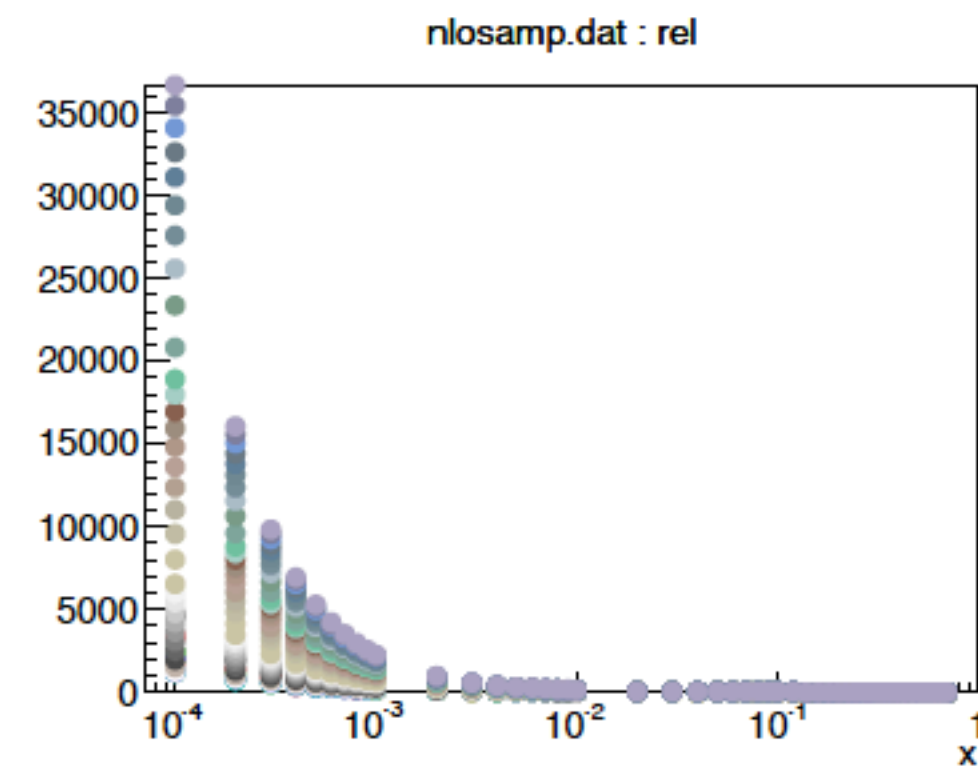
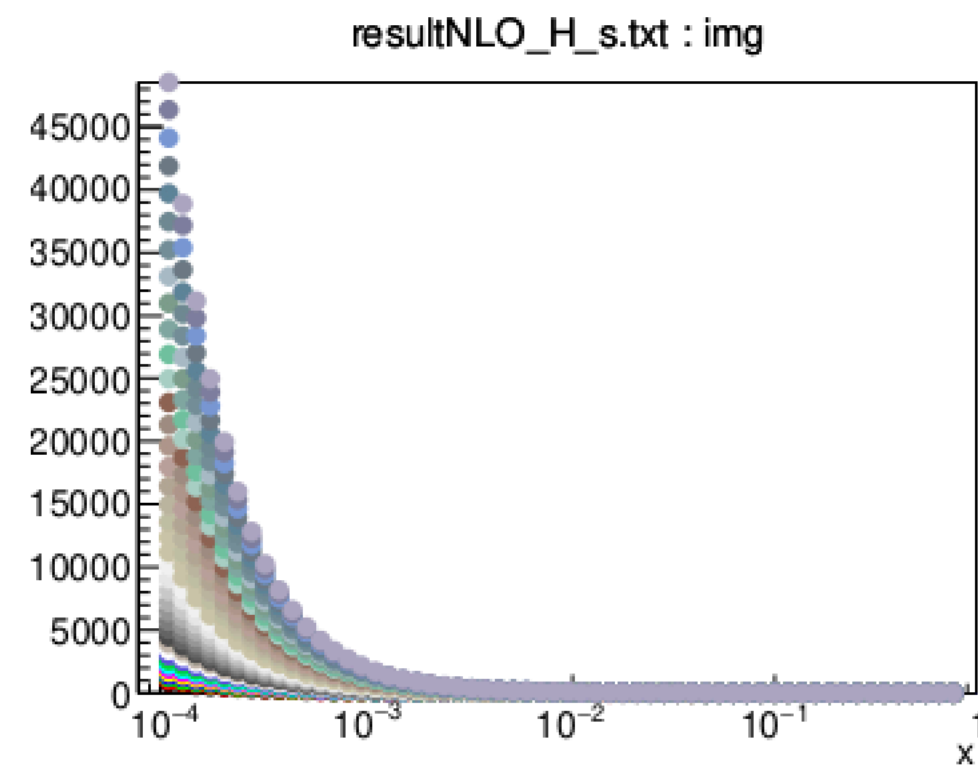
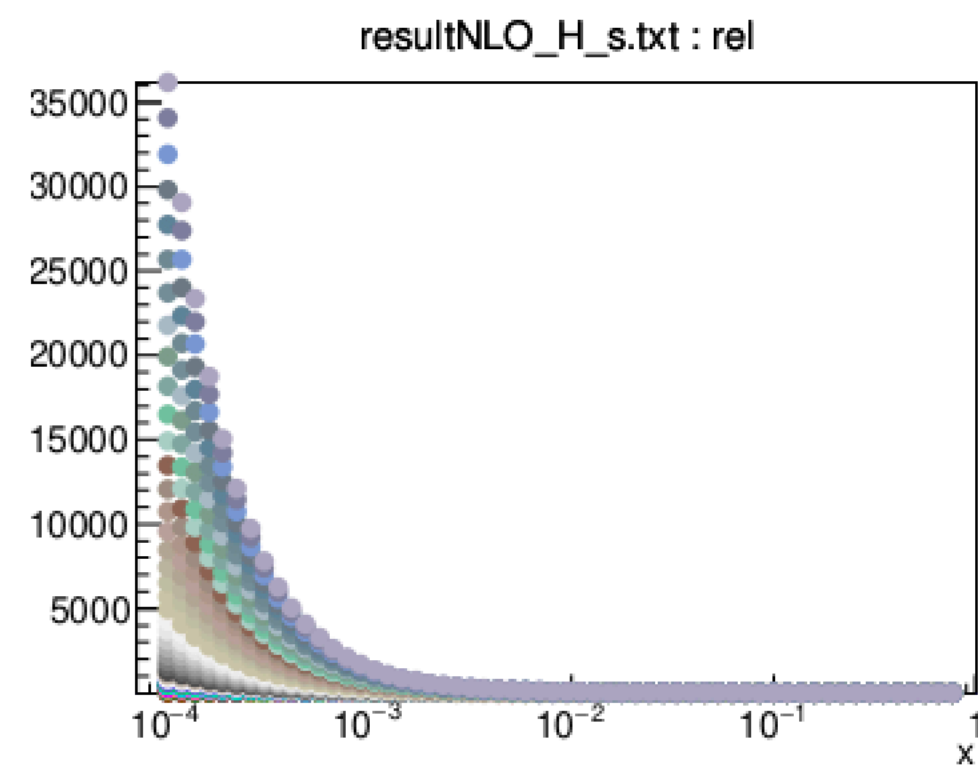
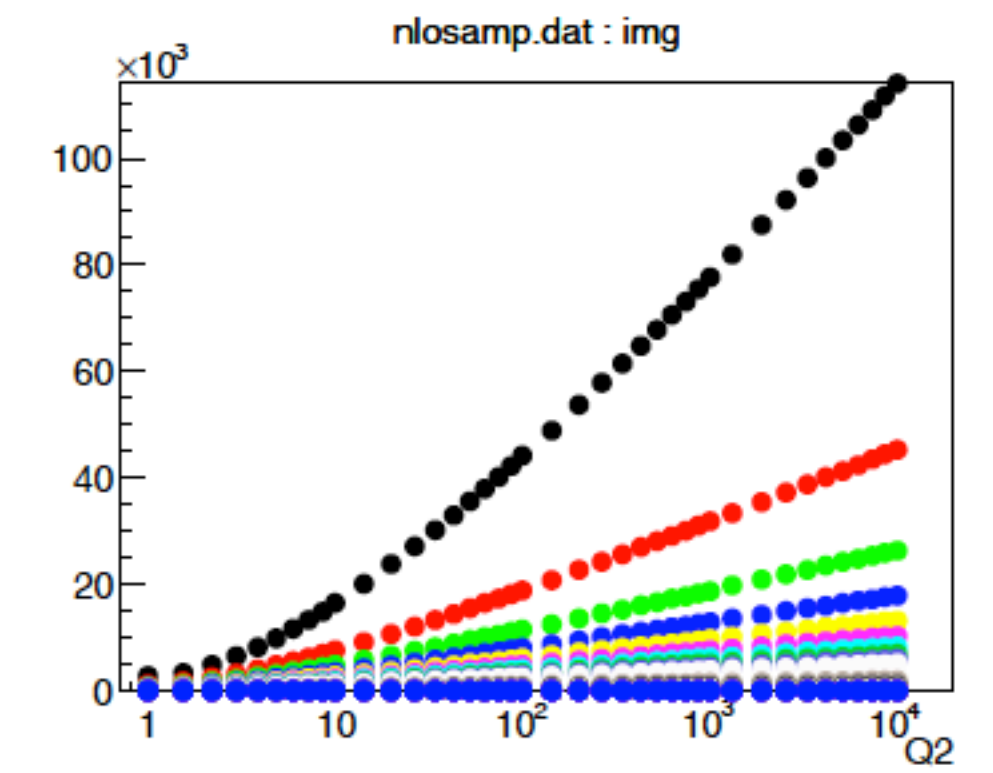
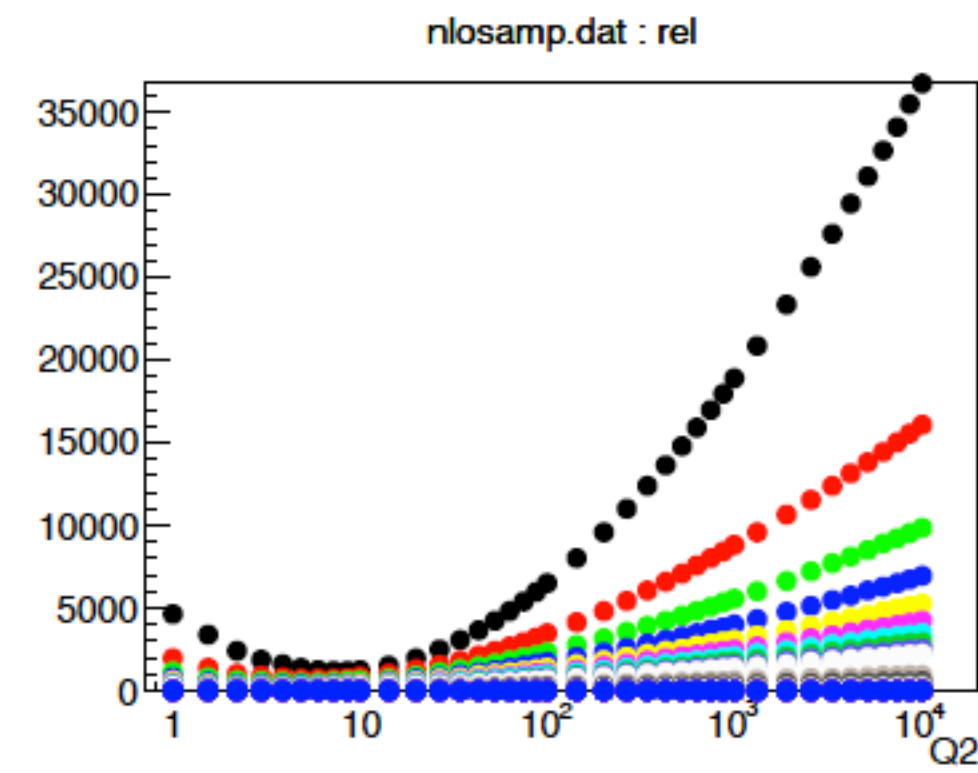
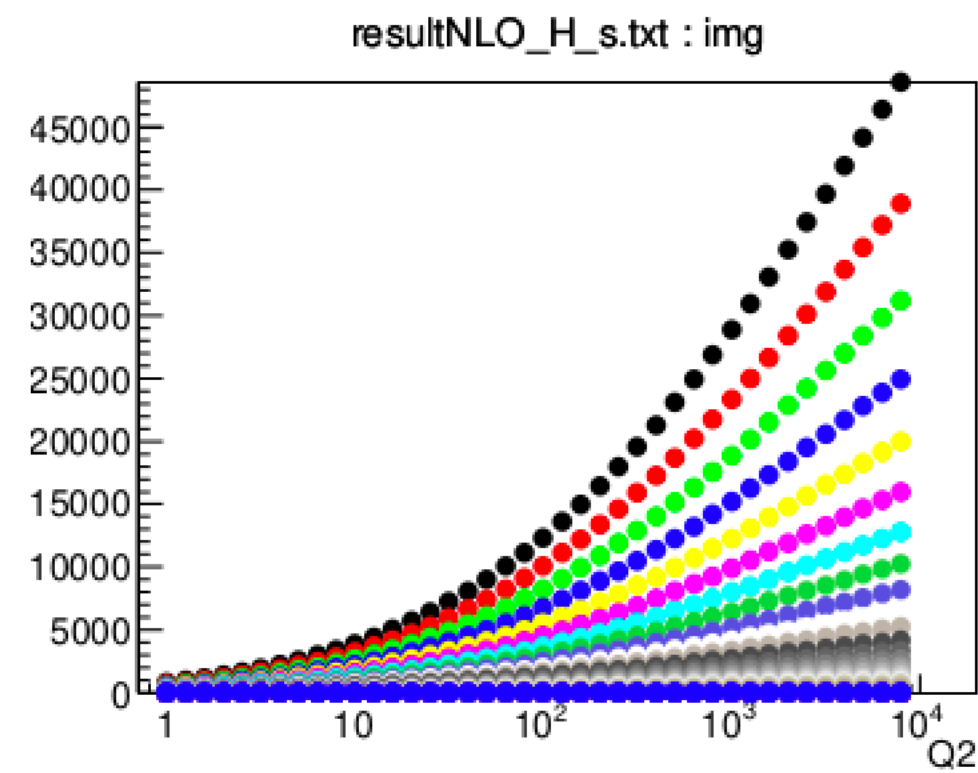
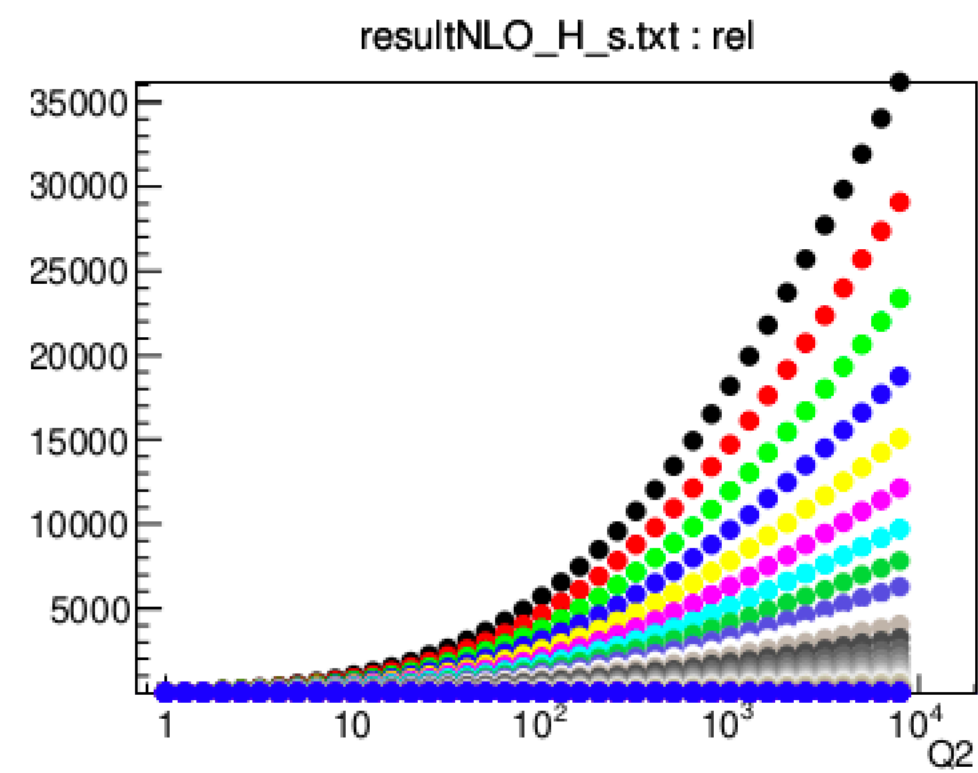
Strange Et LO



Partons

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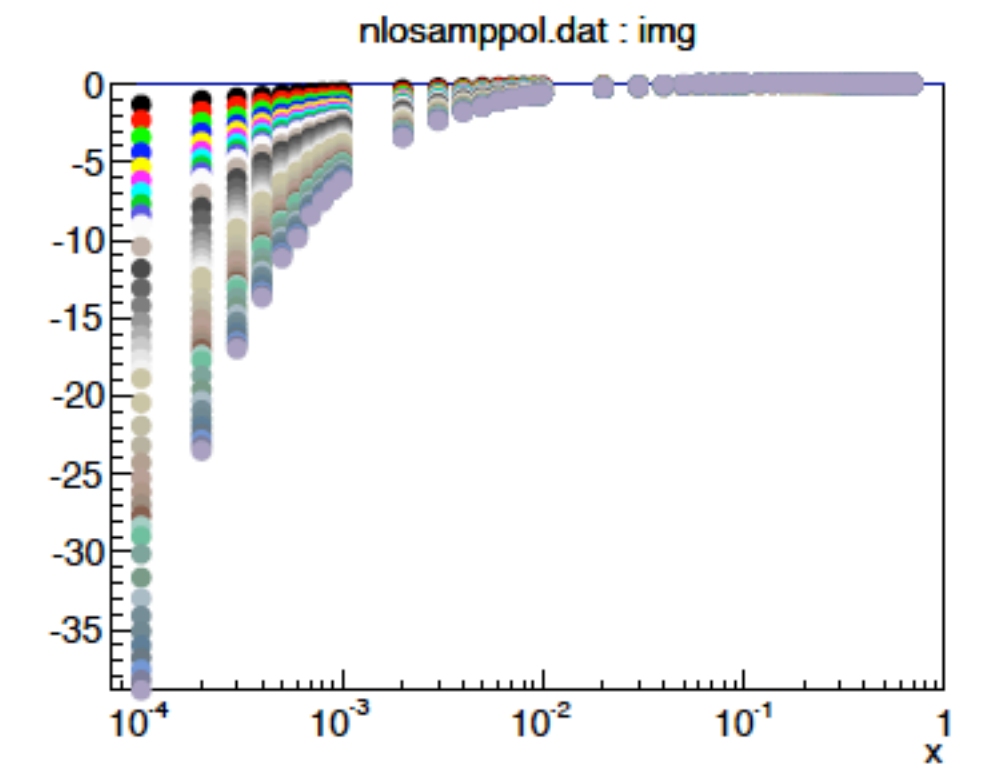
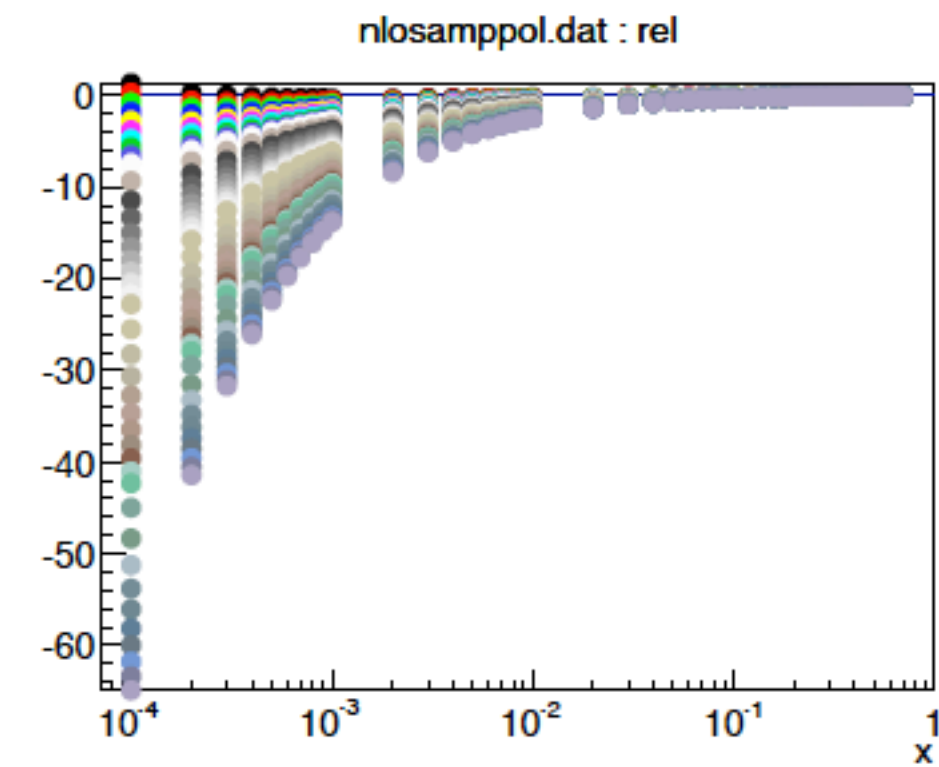
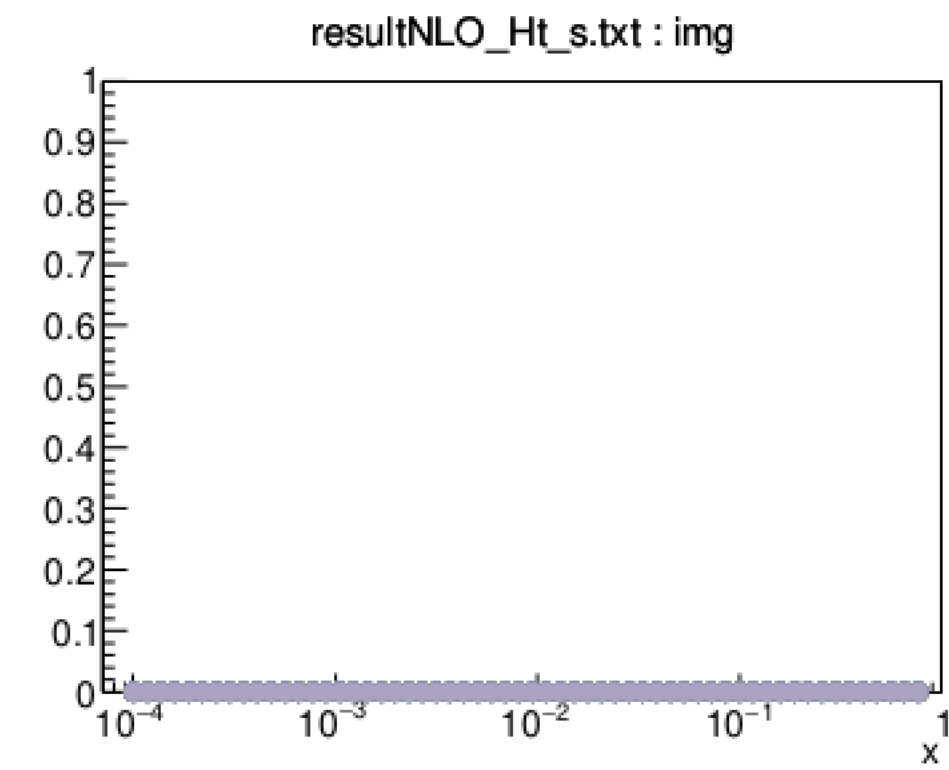
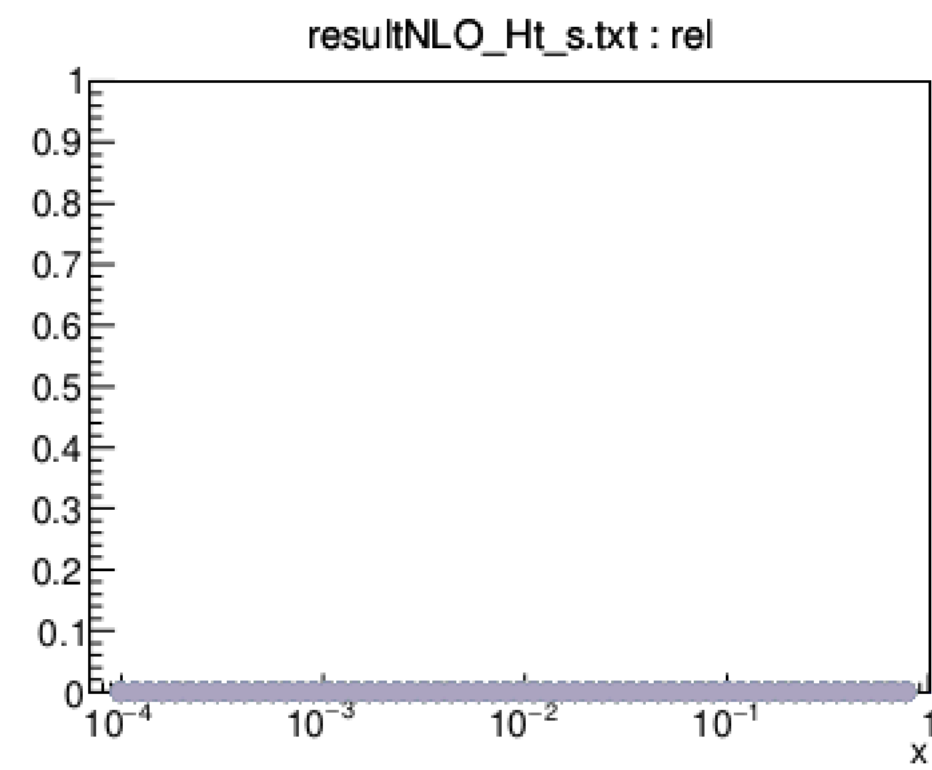
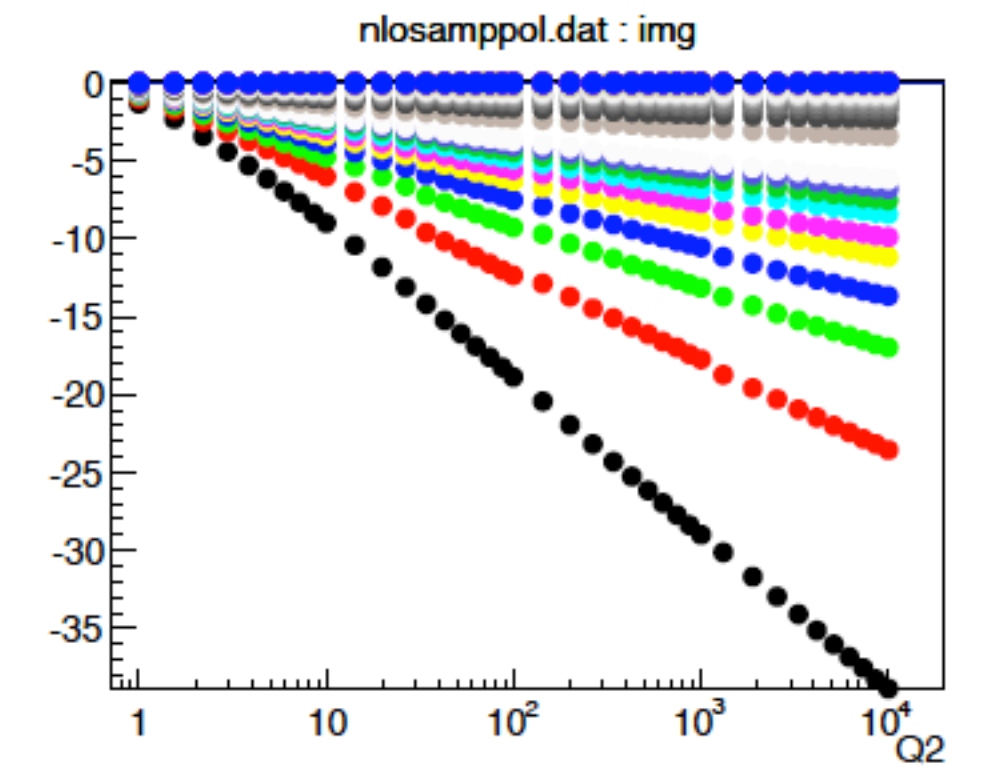
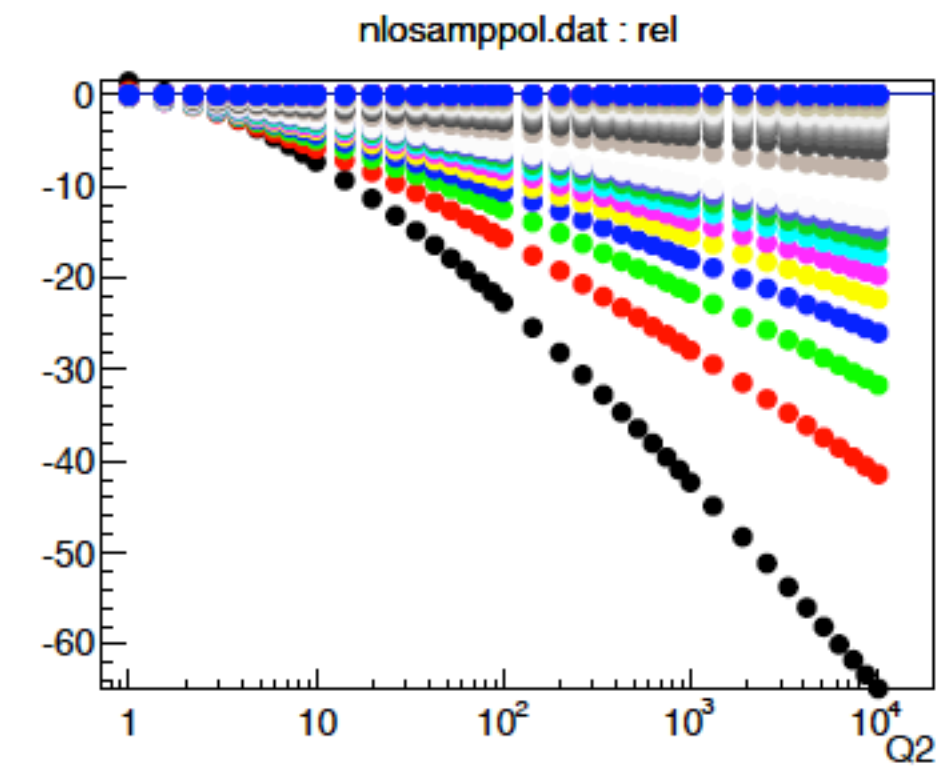
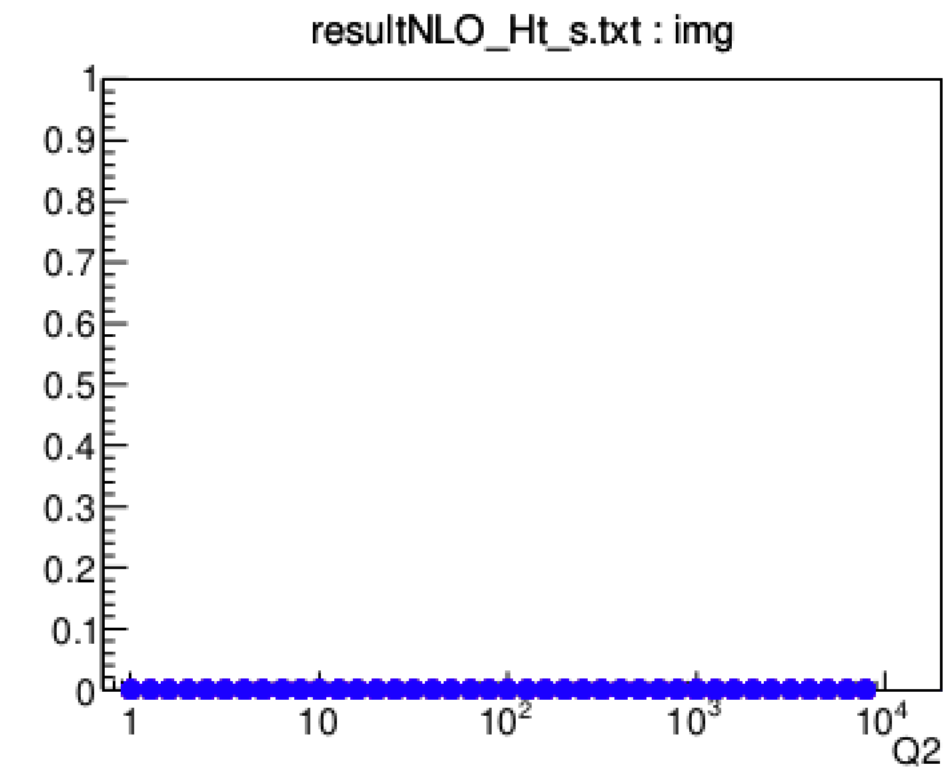
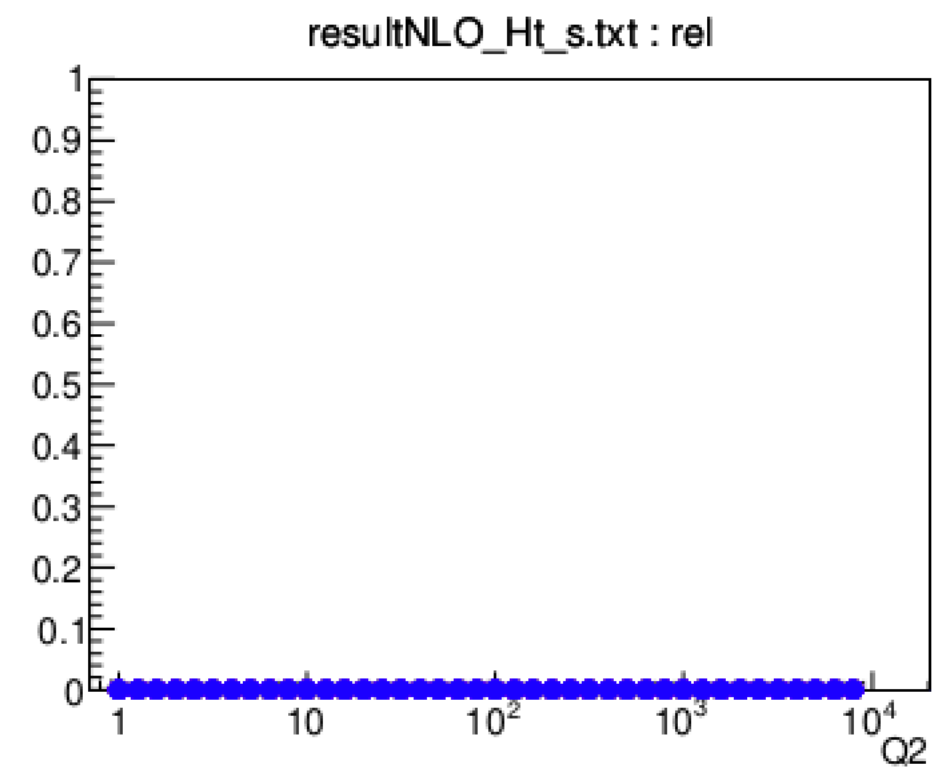
Strange H NLO



Partons

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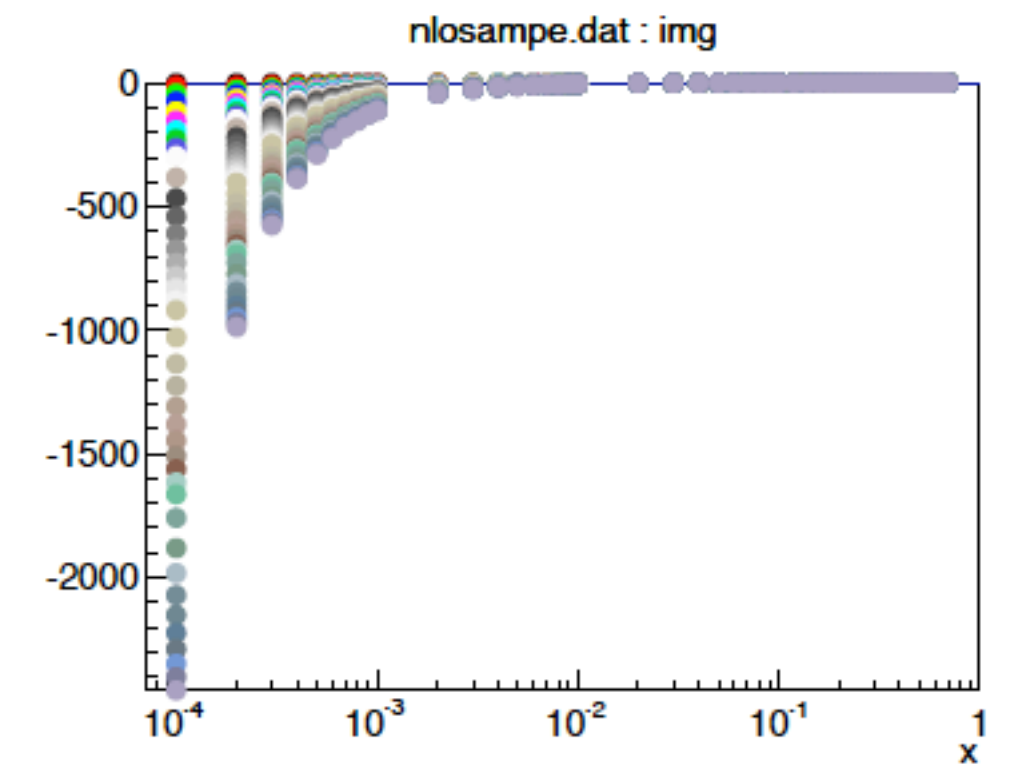
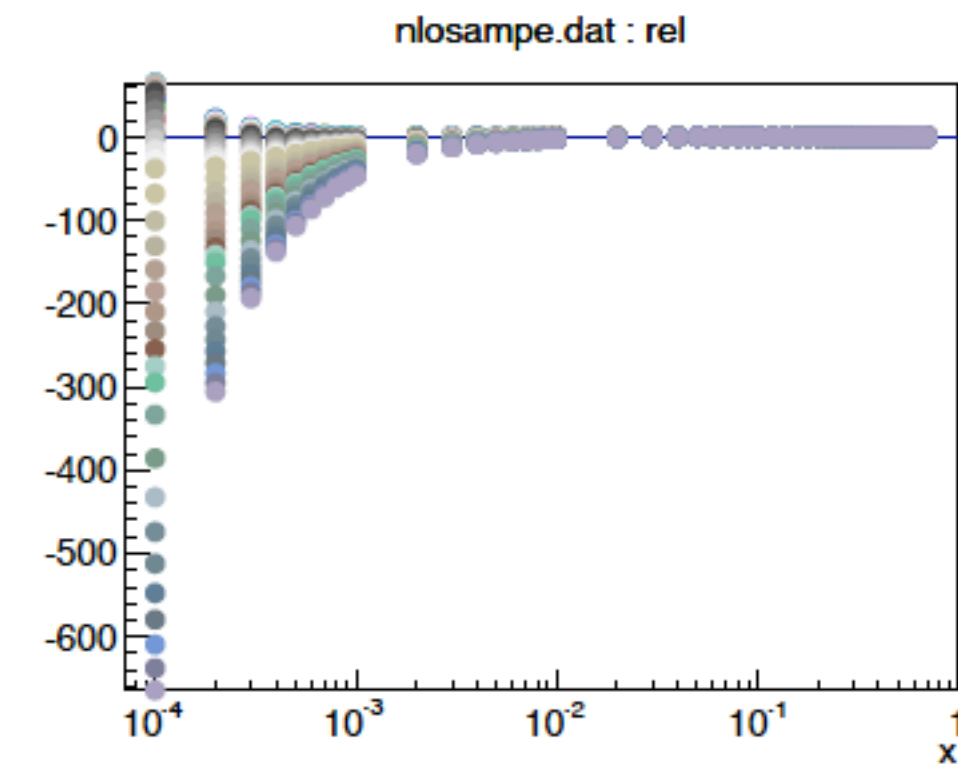
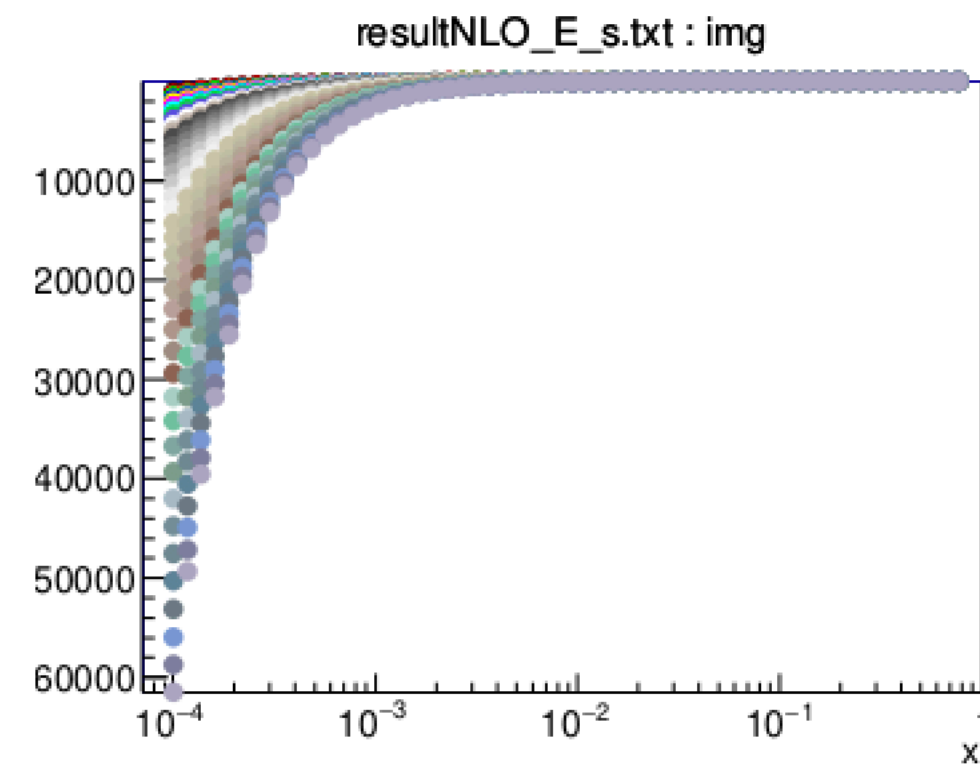
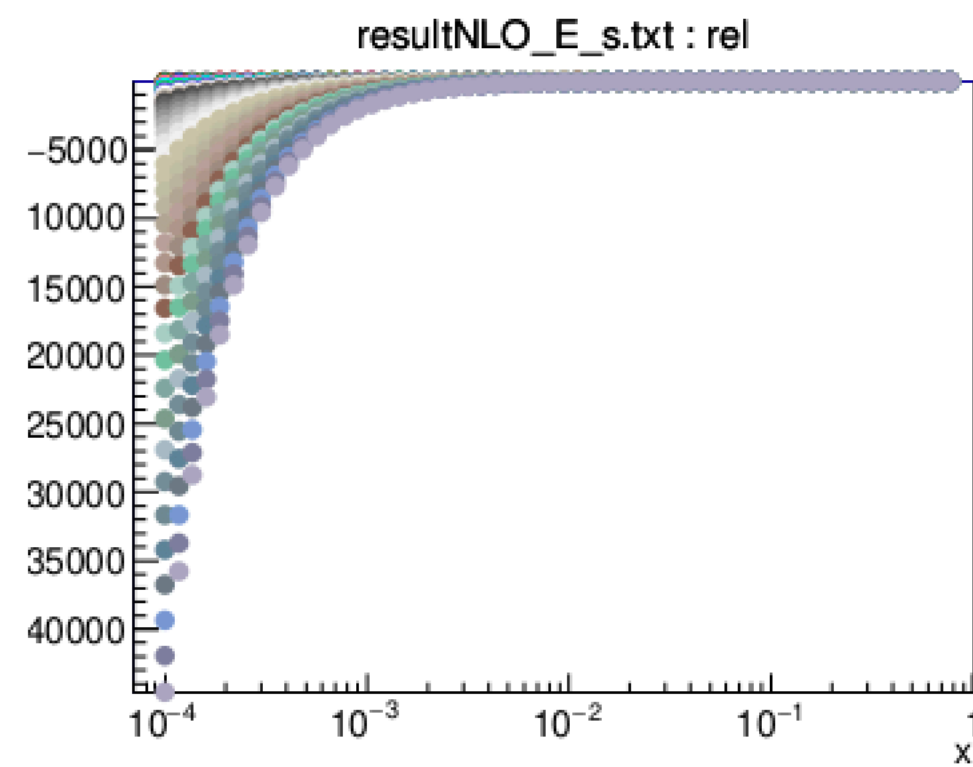
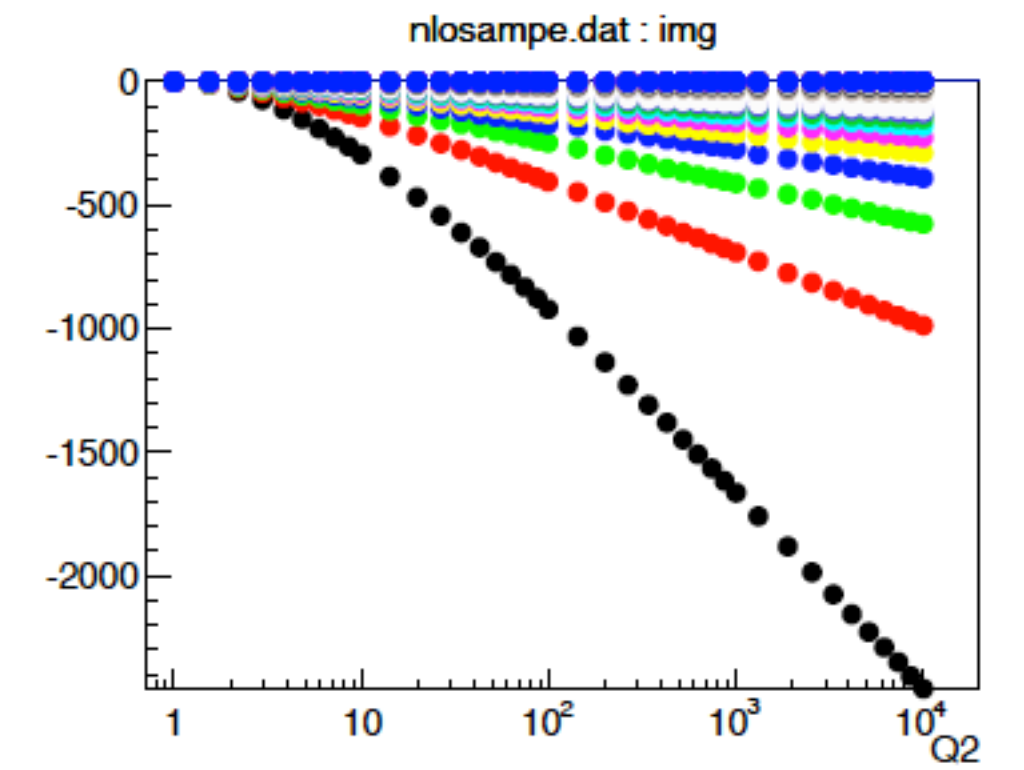
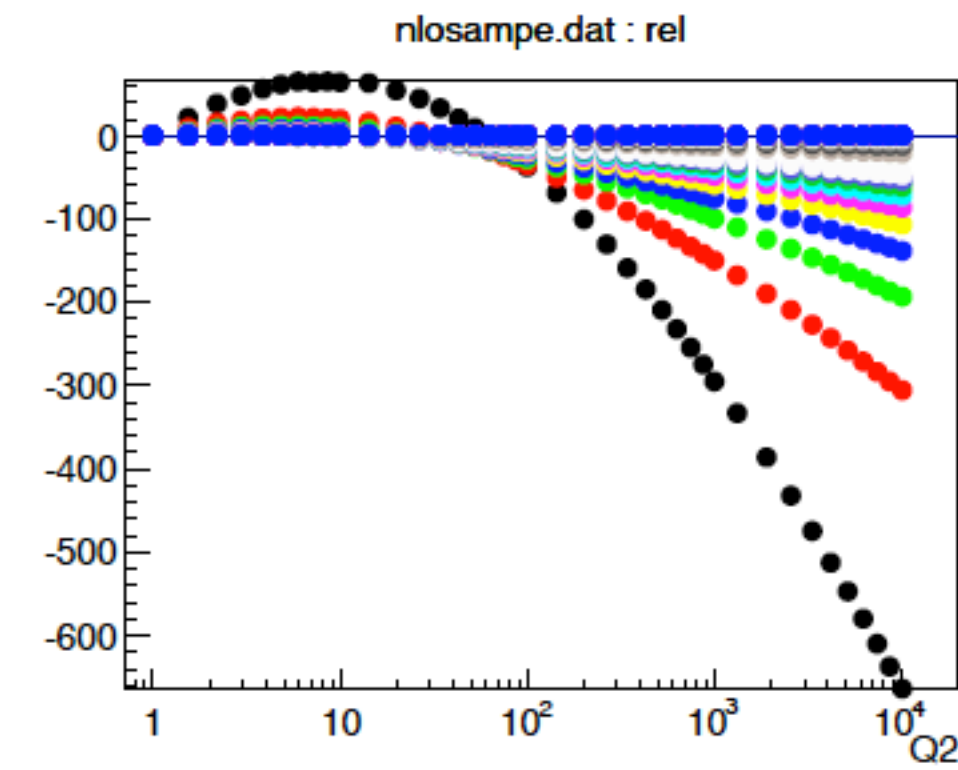
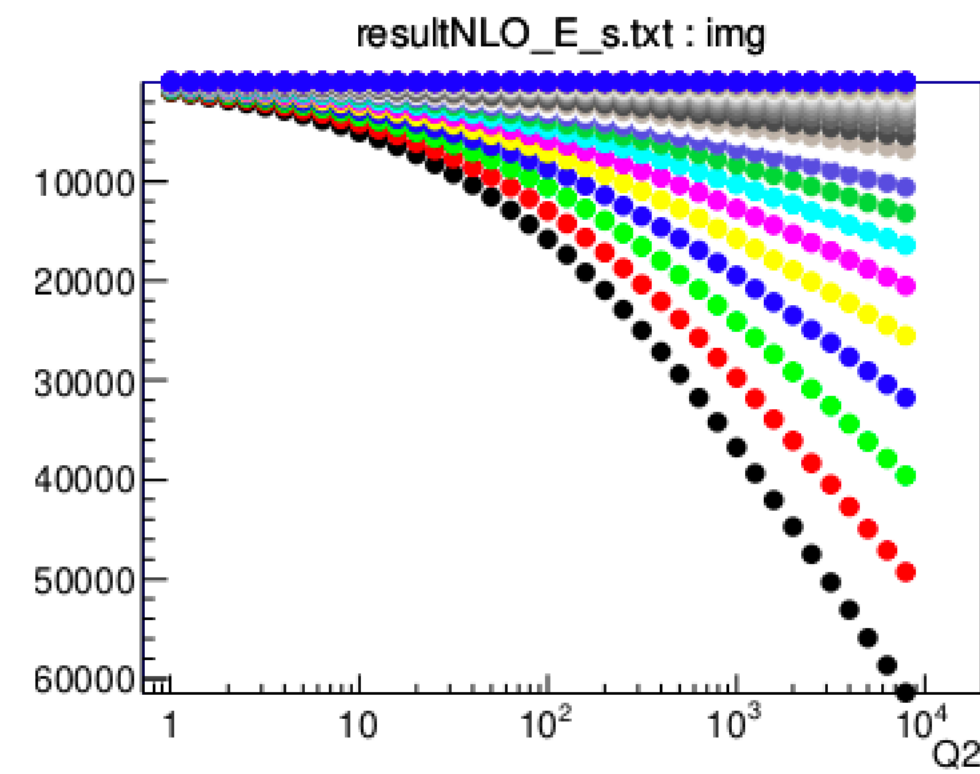
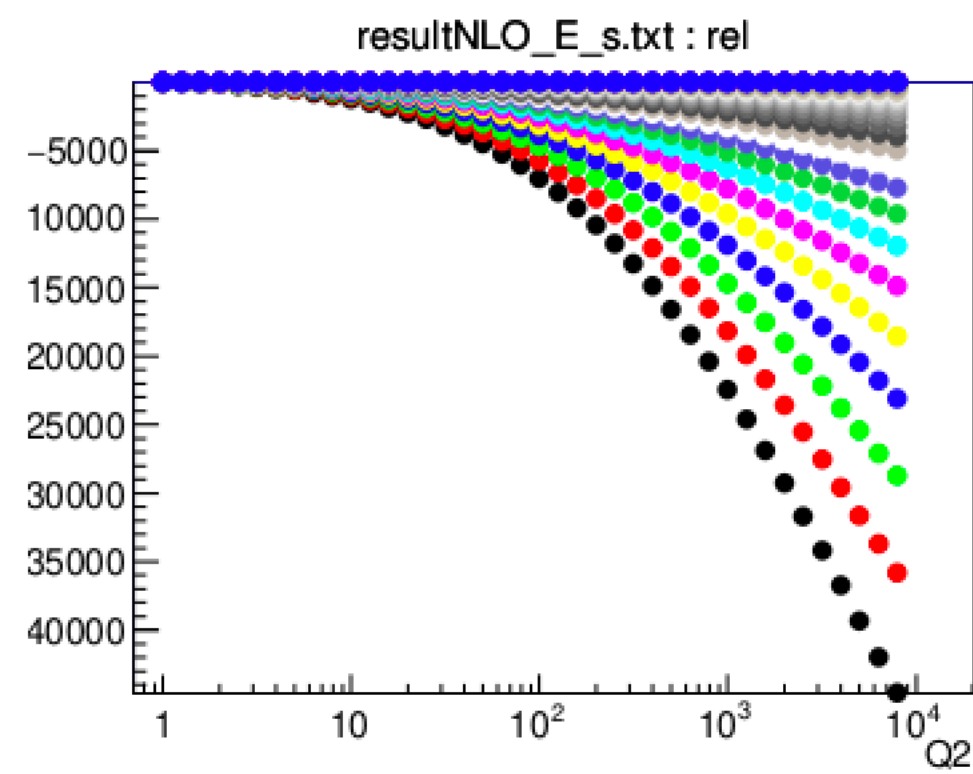
Strange Ht NLO



Partons

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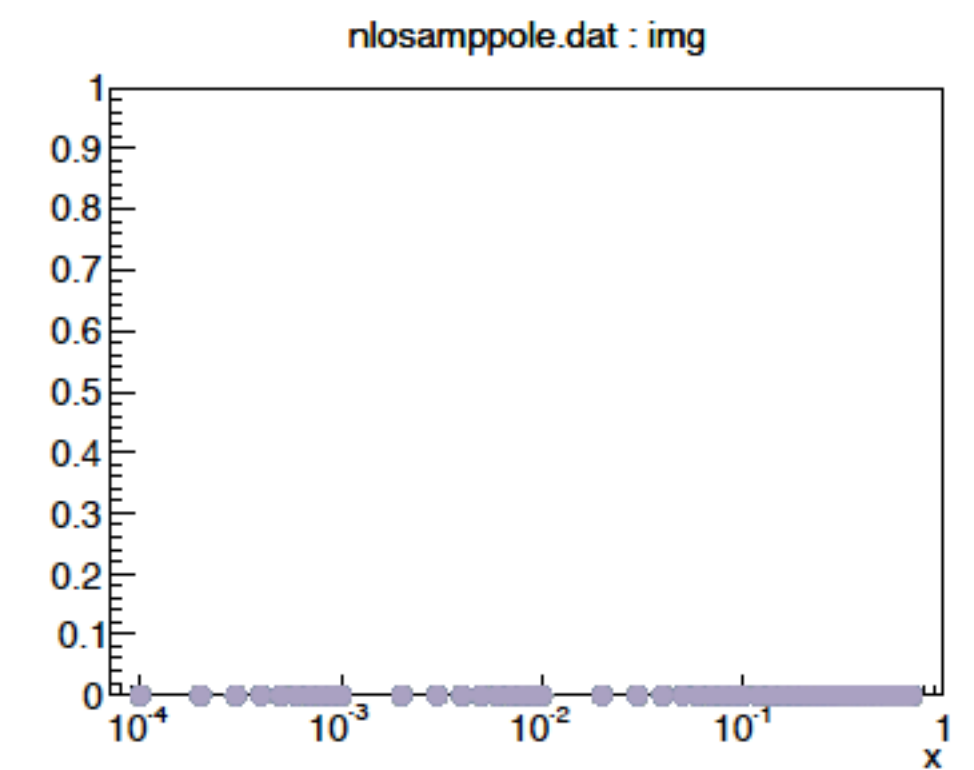
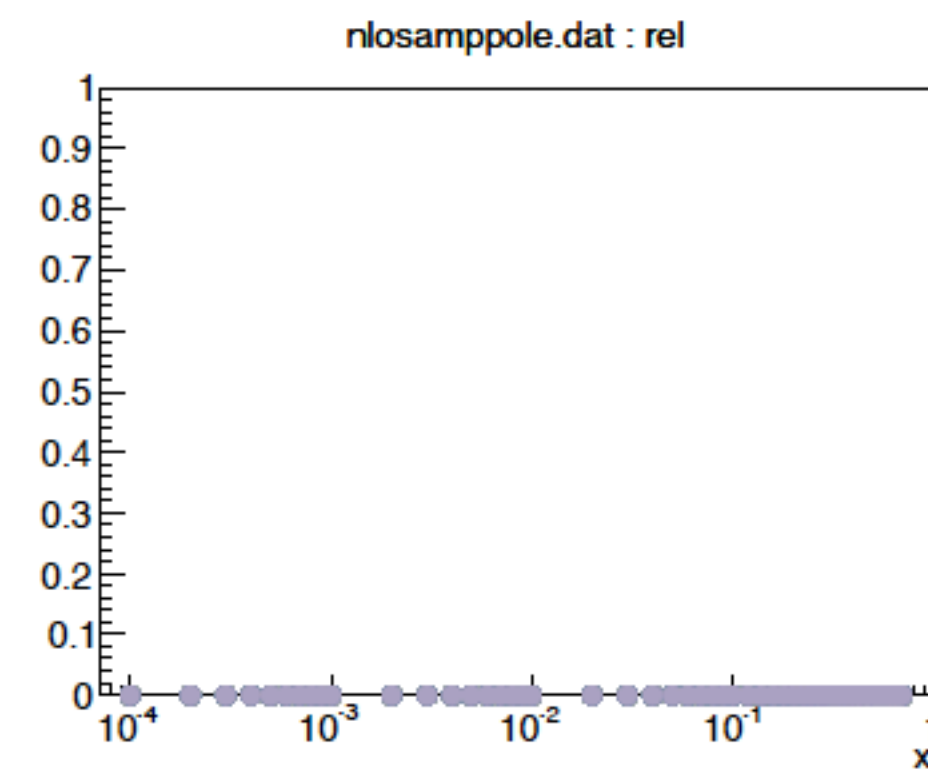
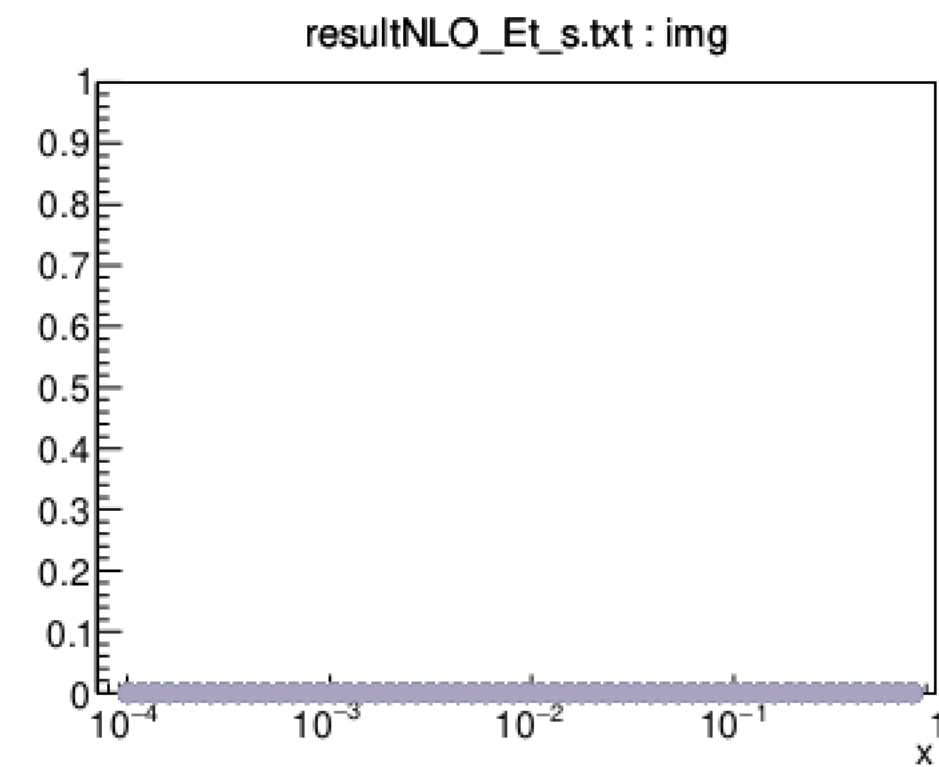
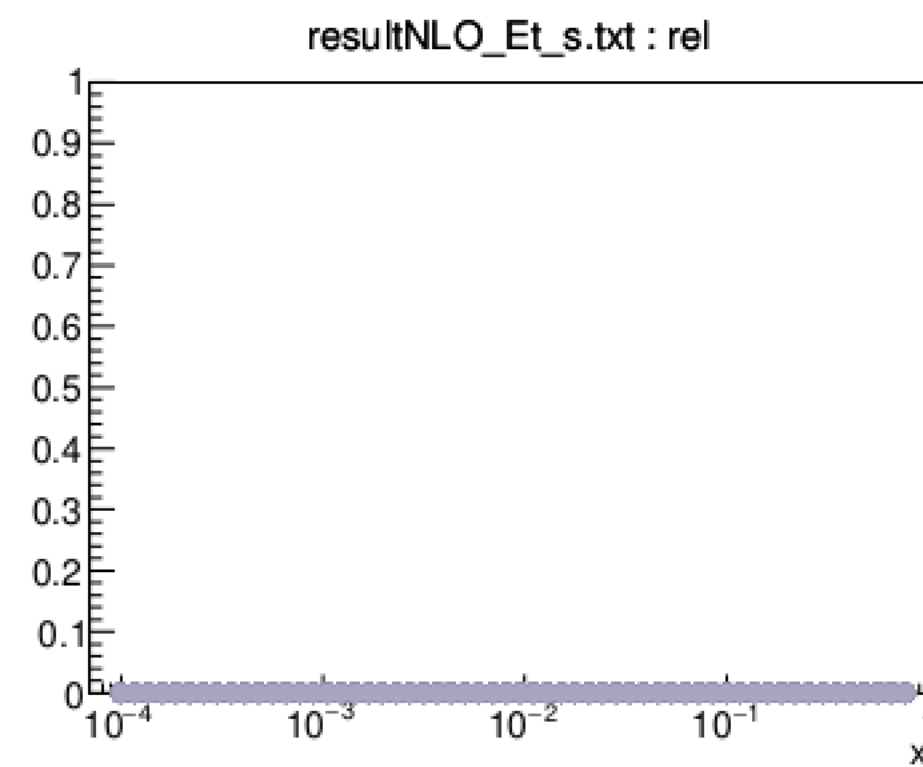
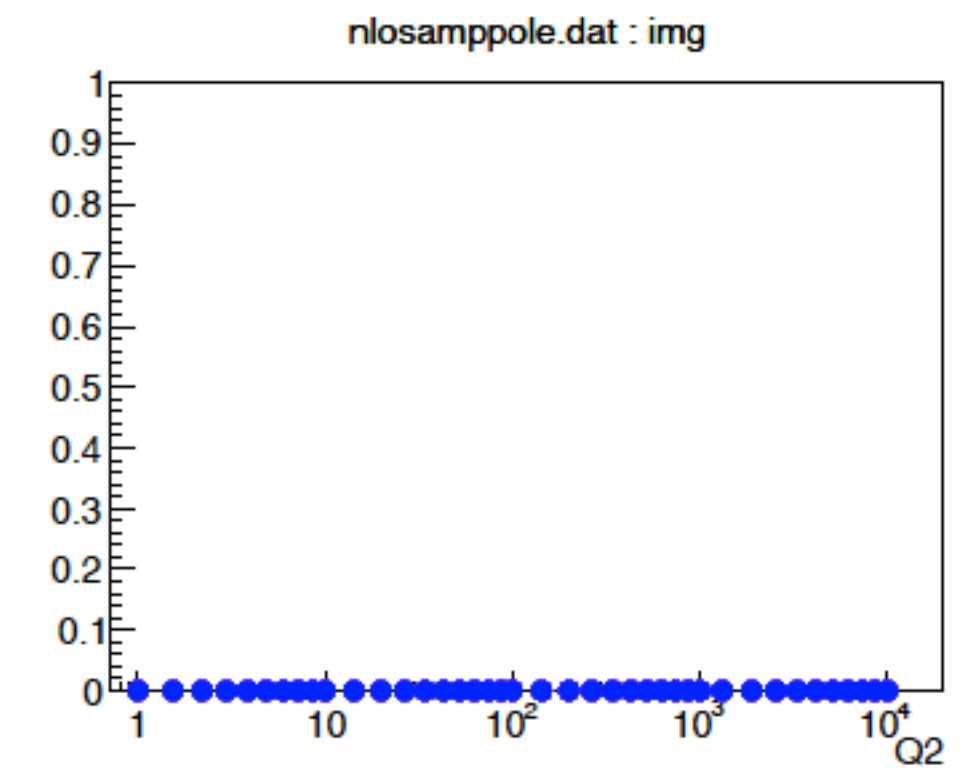
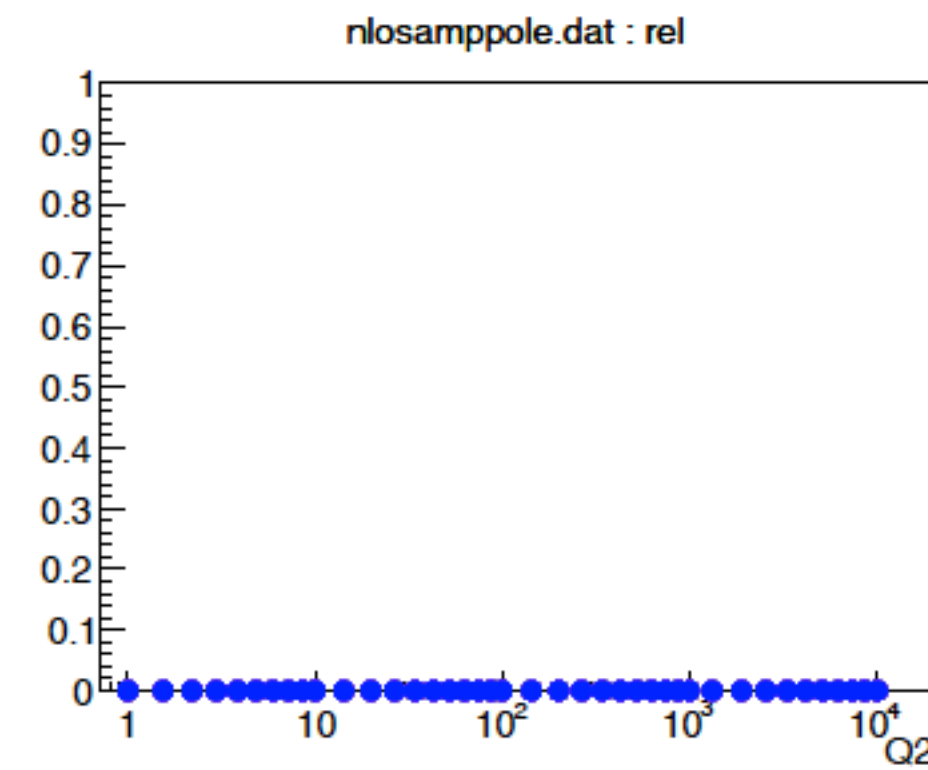
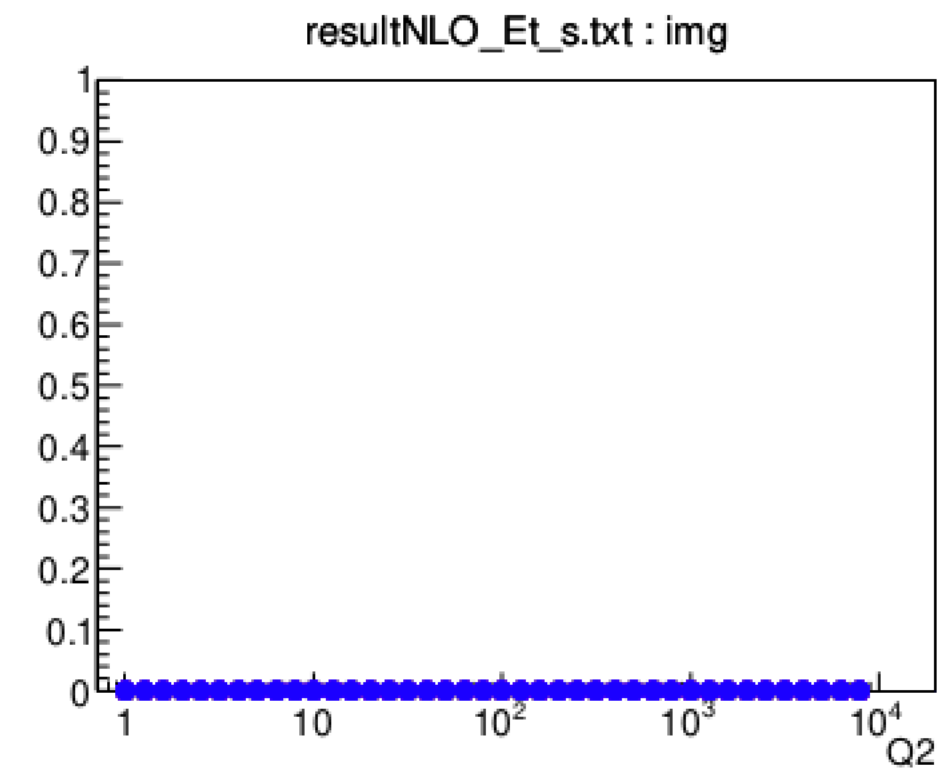
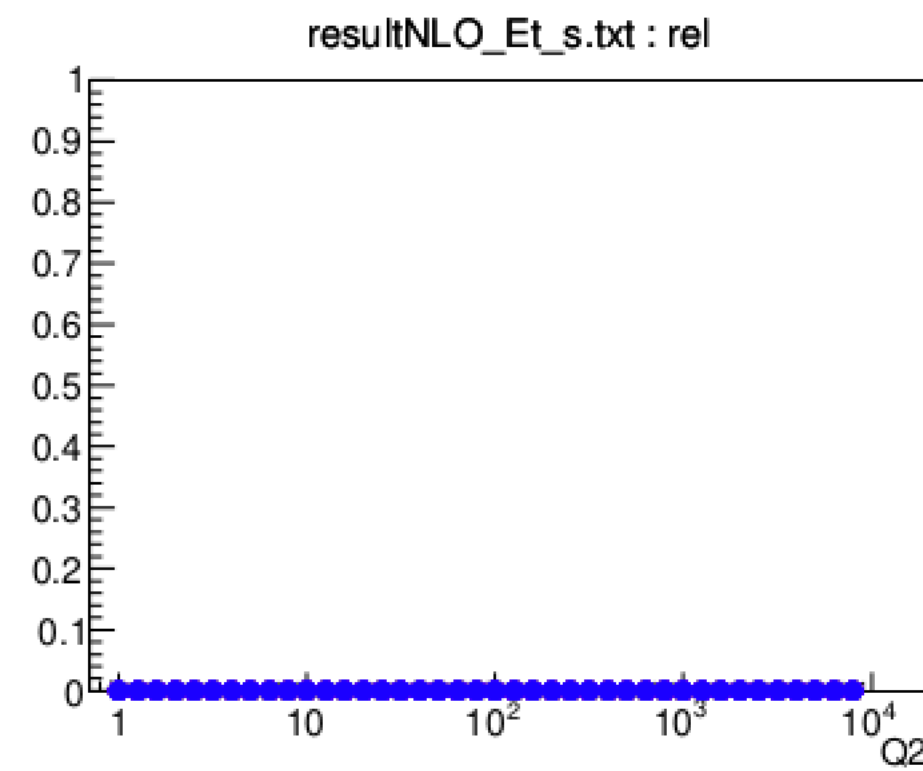
Strange E NLO



Partons

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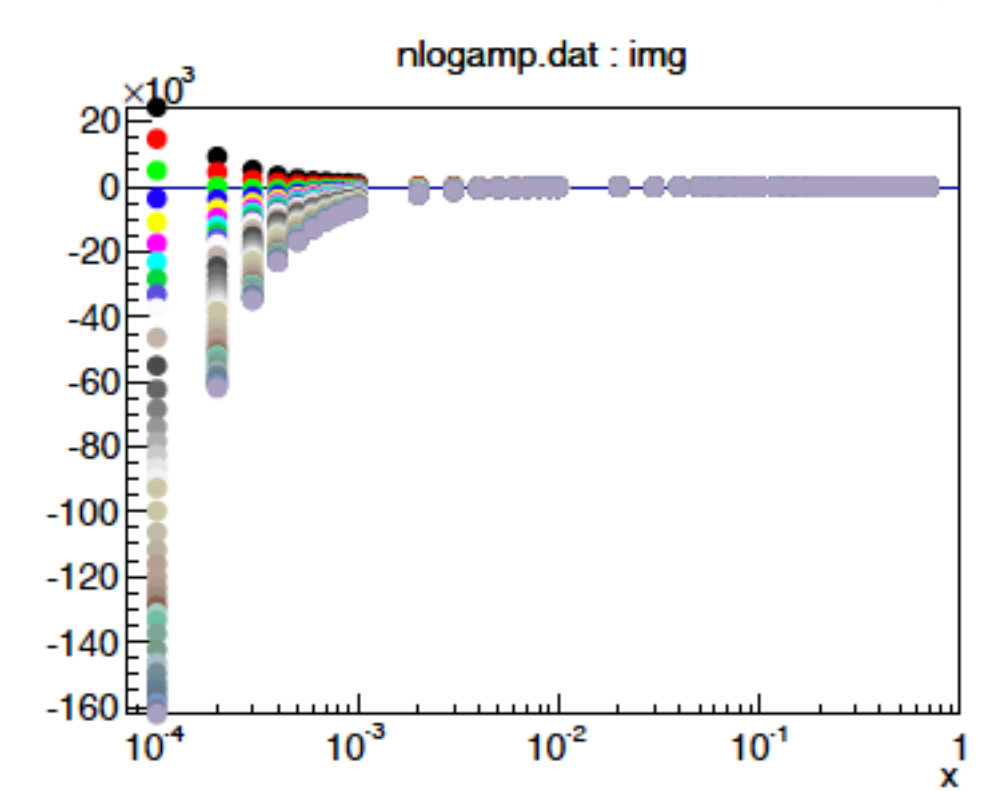
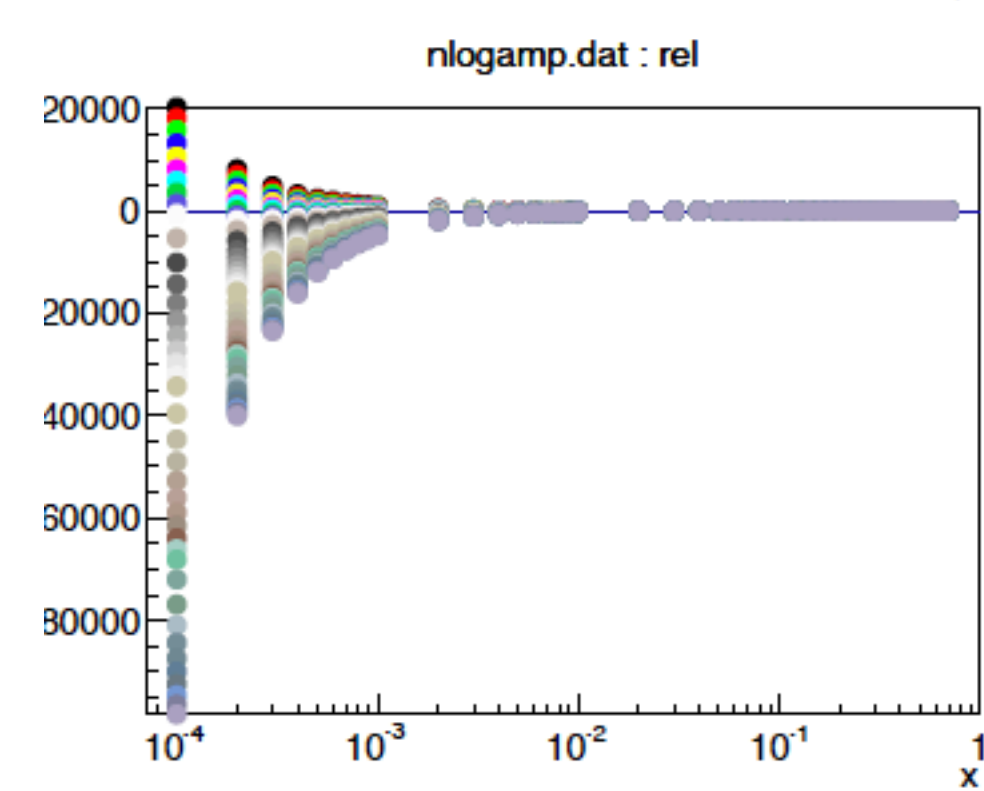
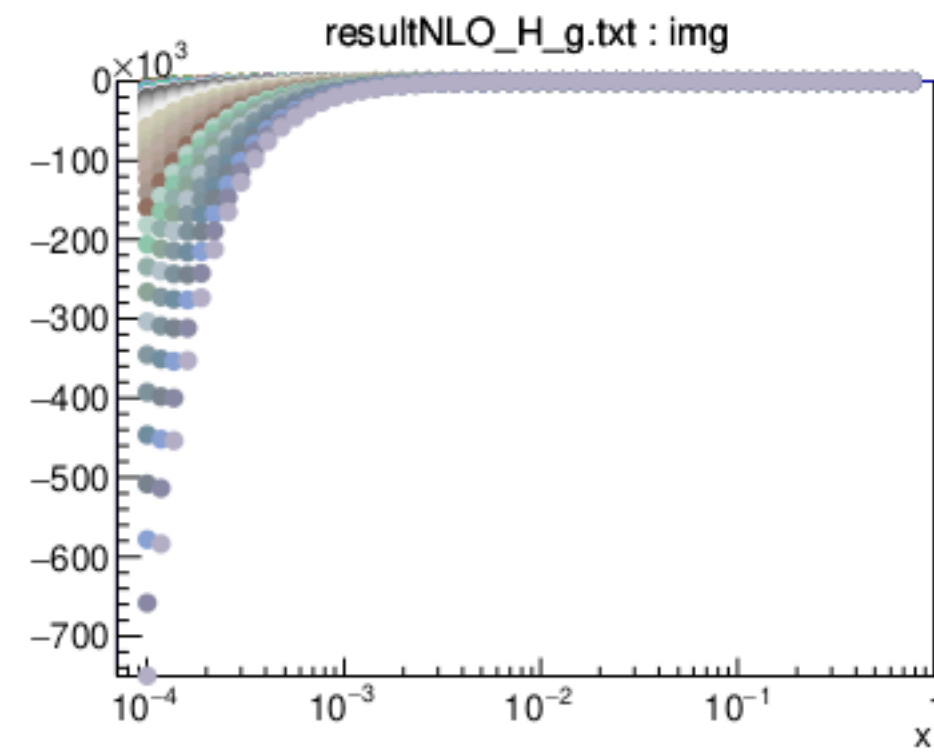
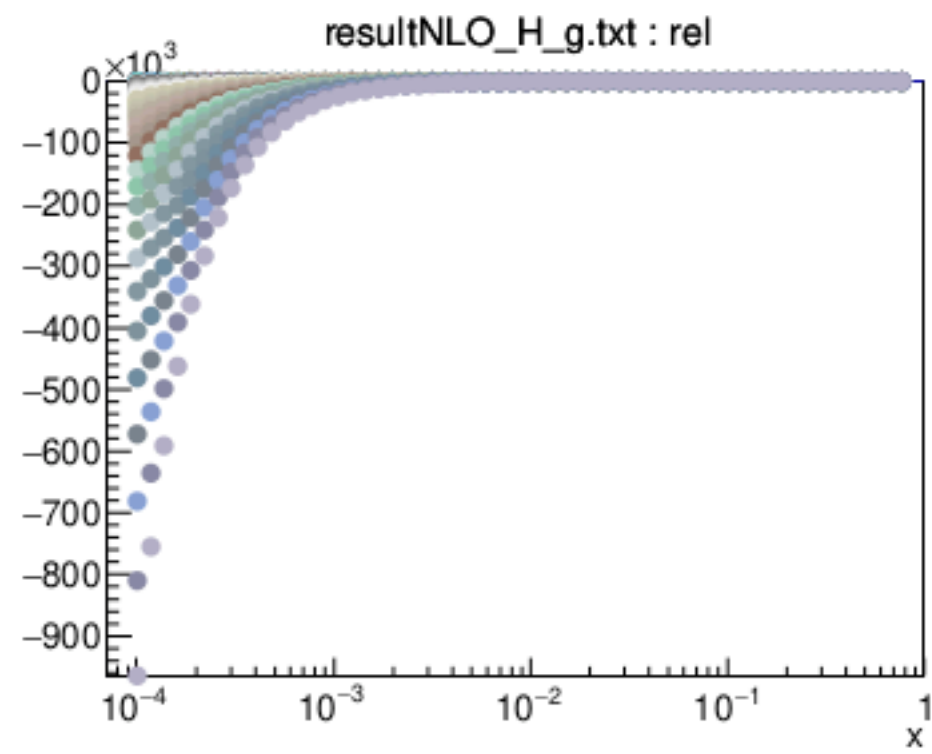
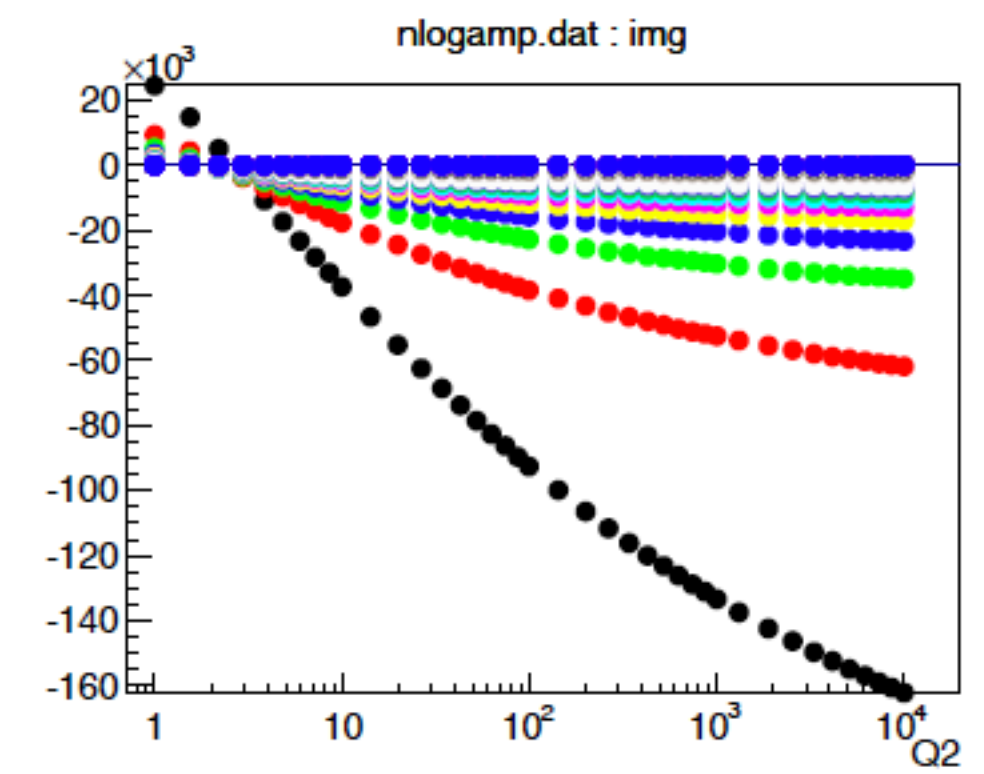
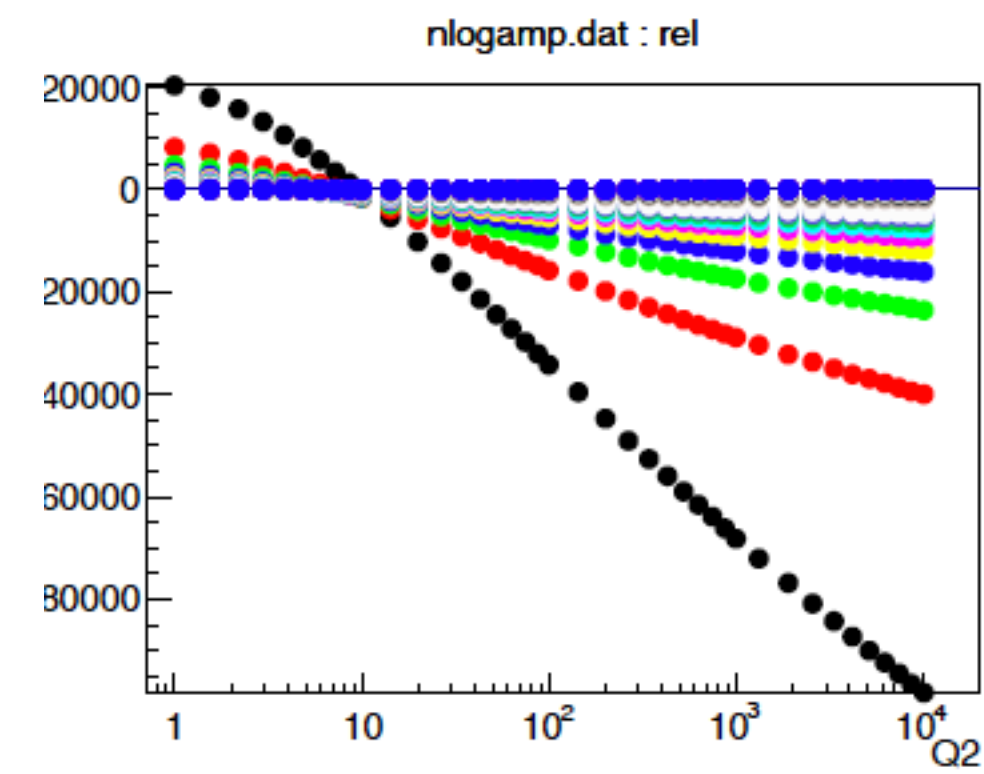
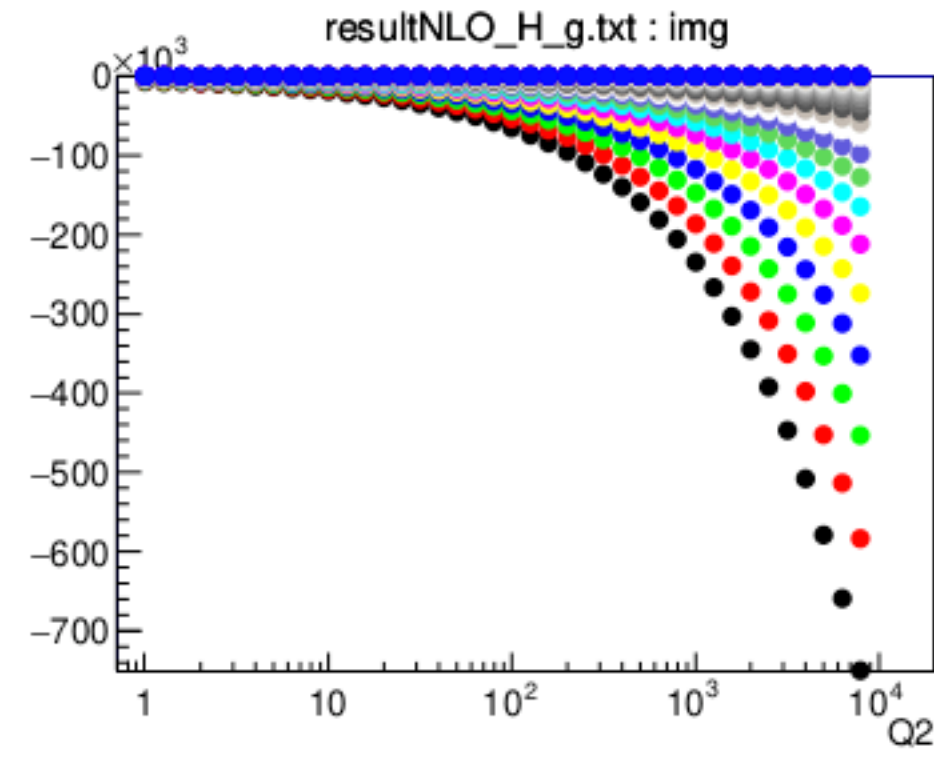
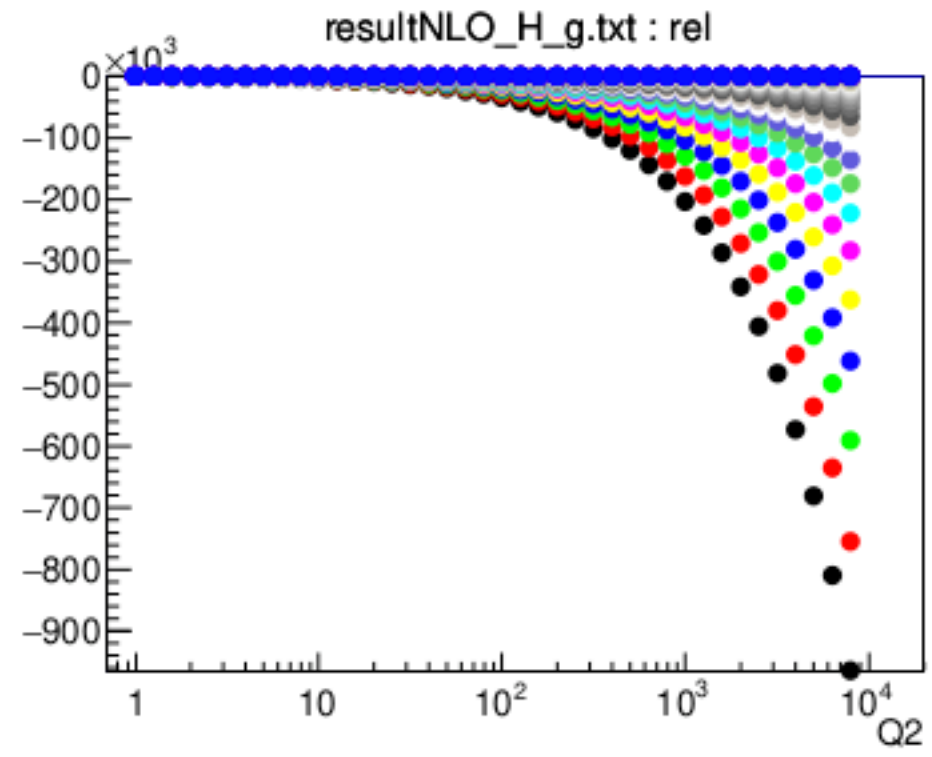
Strange Et NLO



Partons

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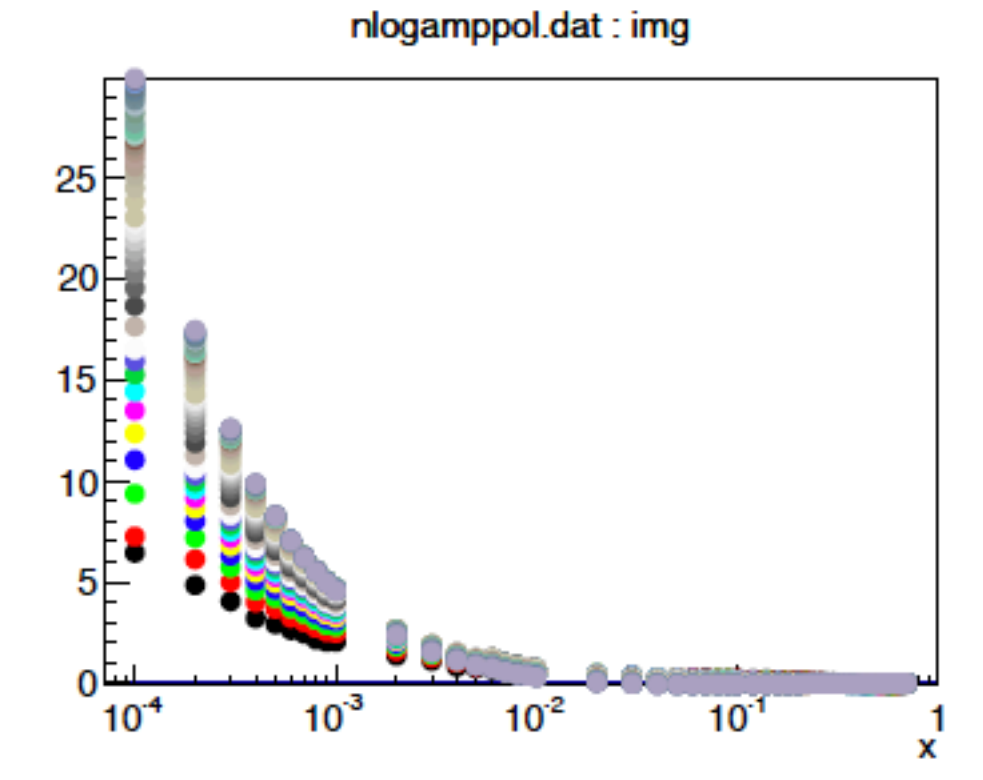
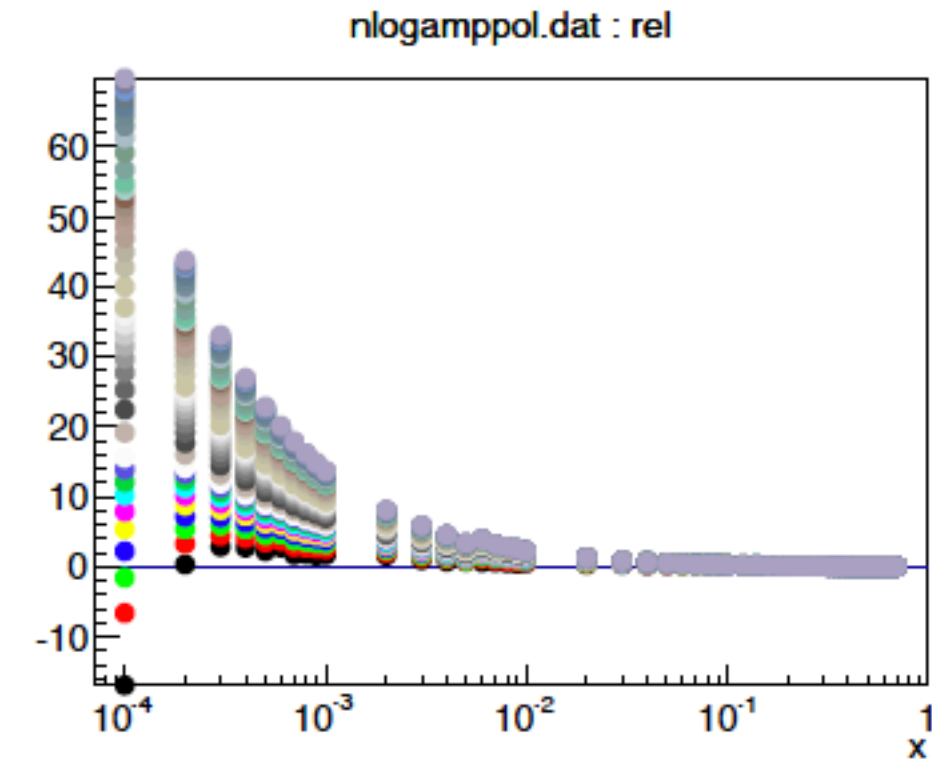
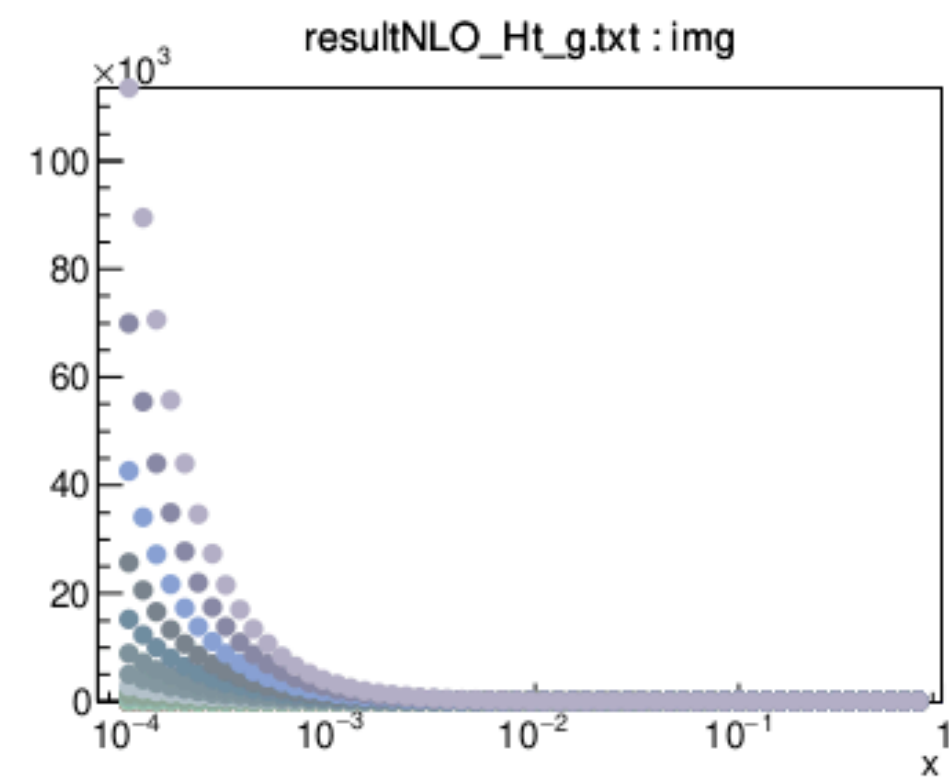
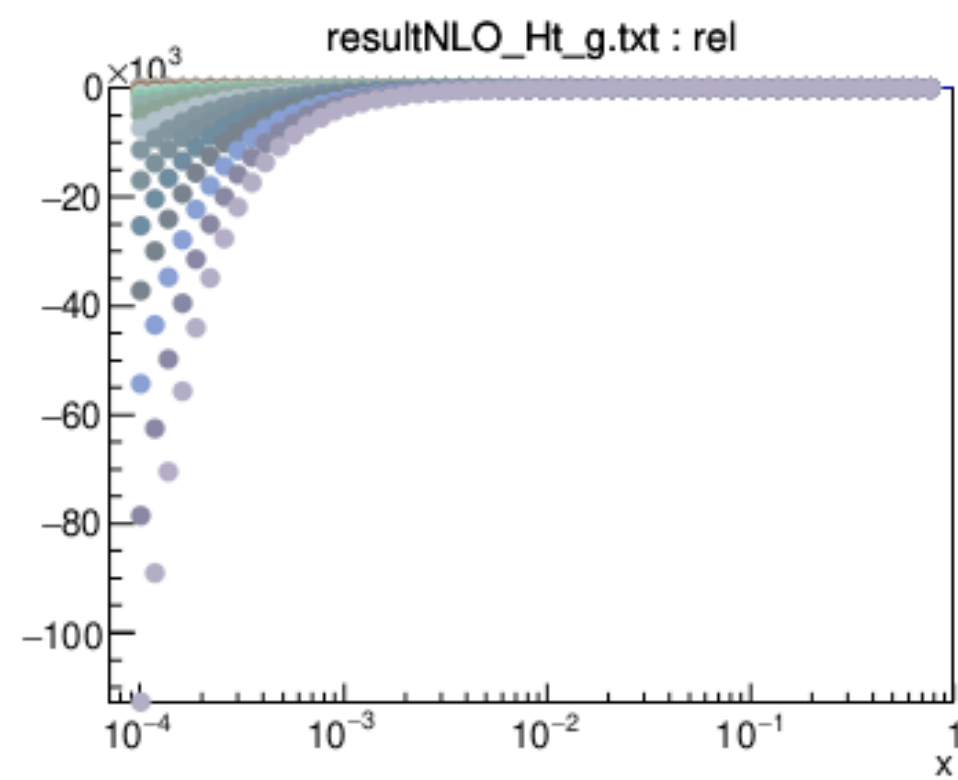
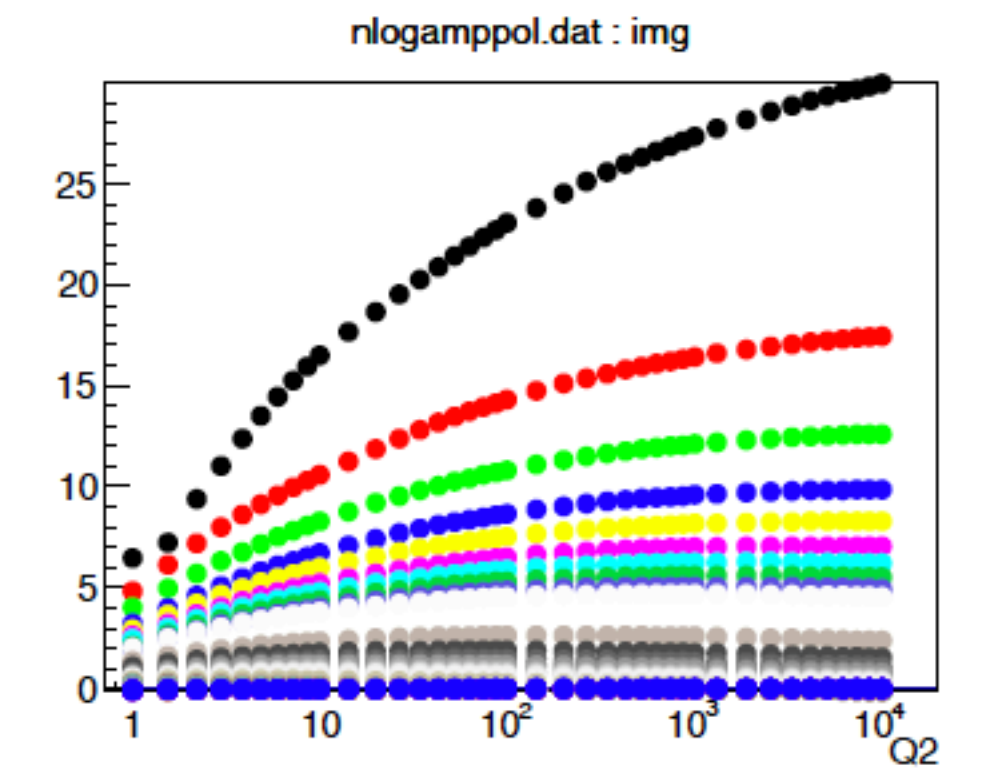
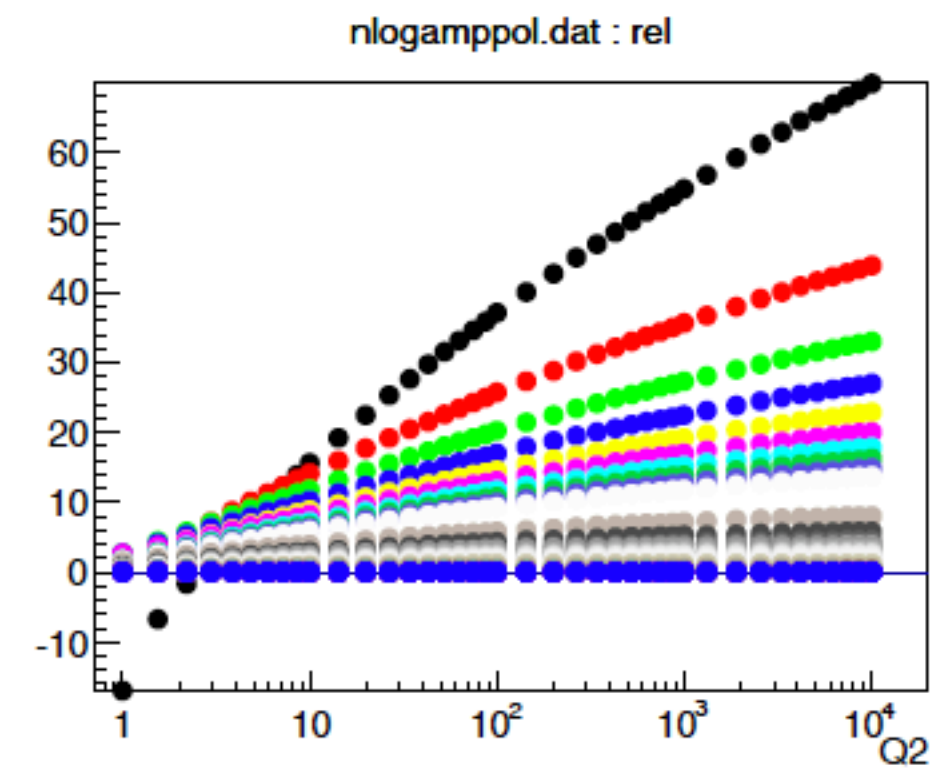
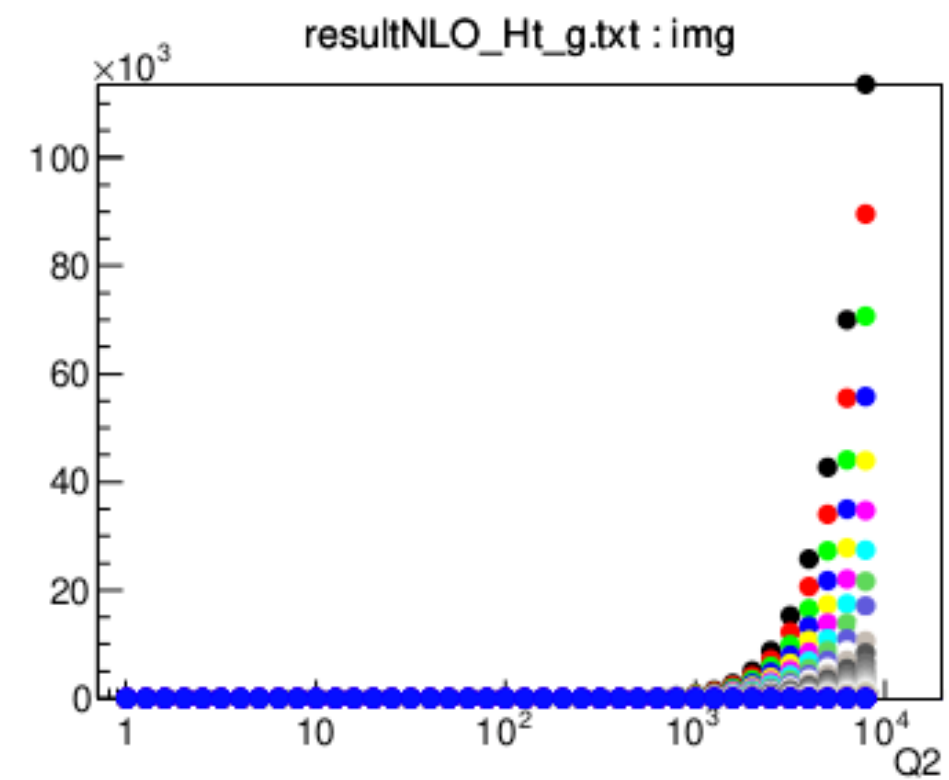
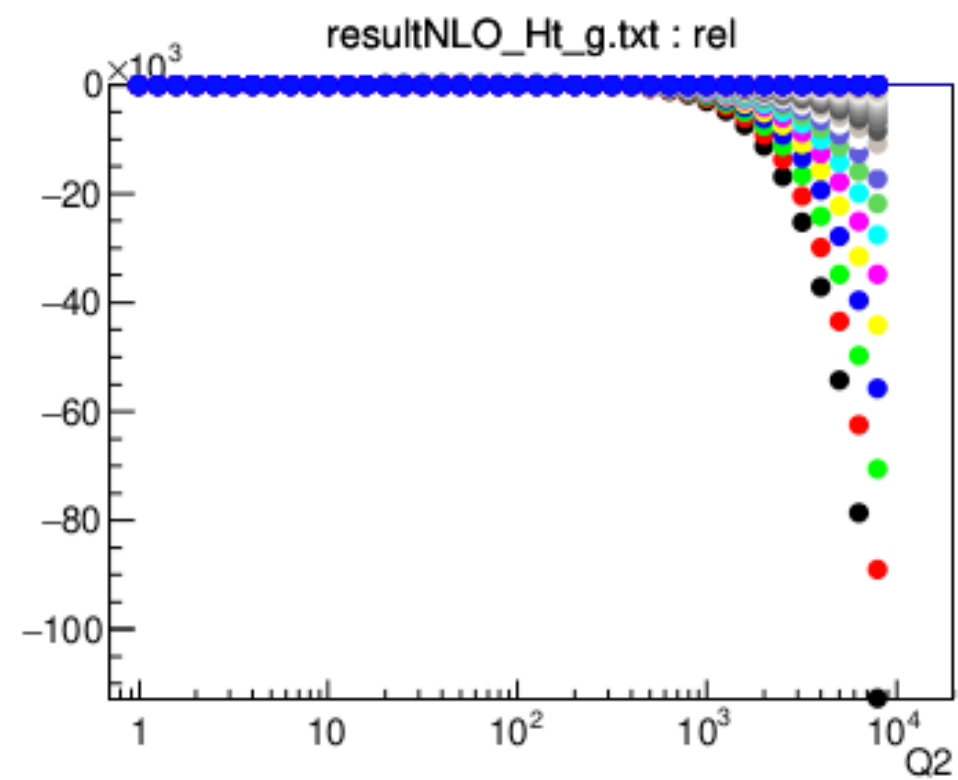
Gluon H NLO



Partons

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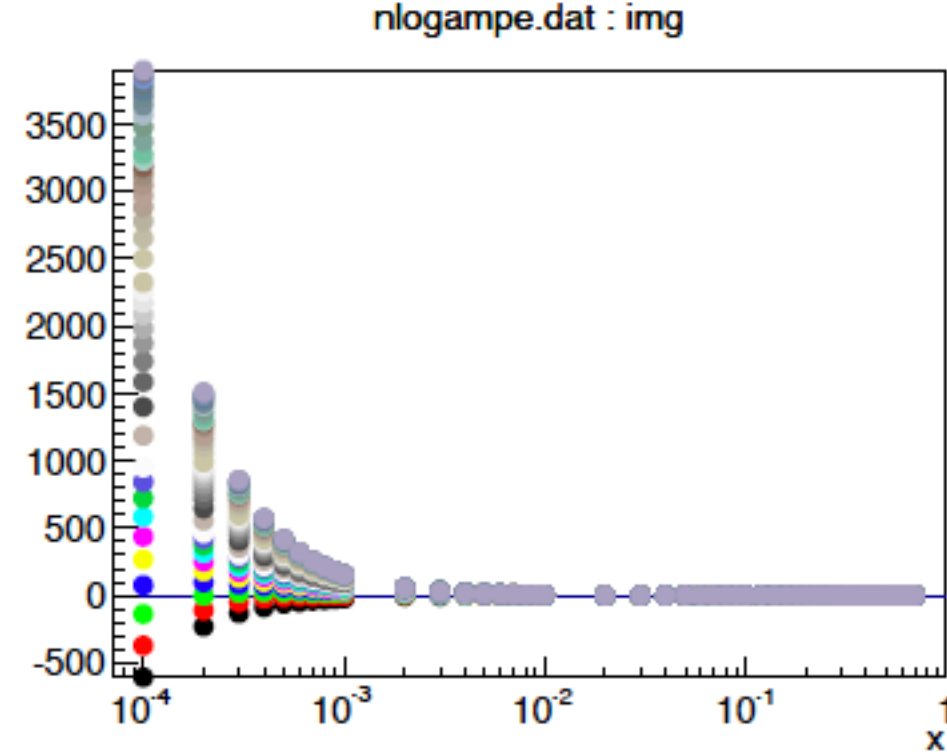
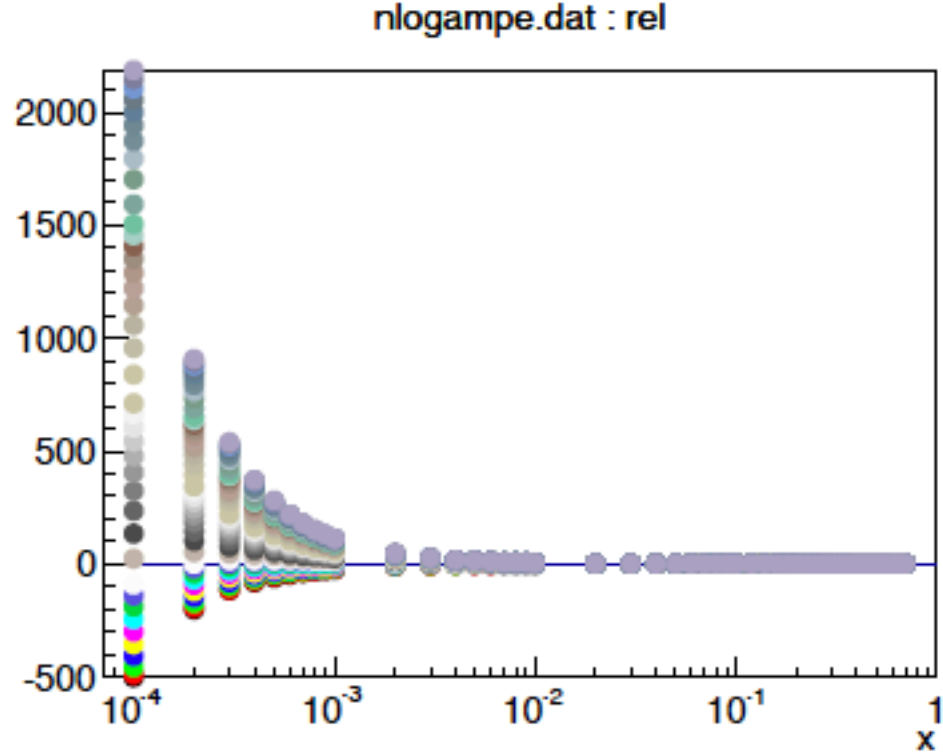
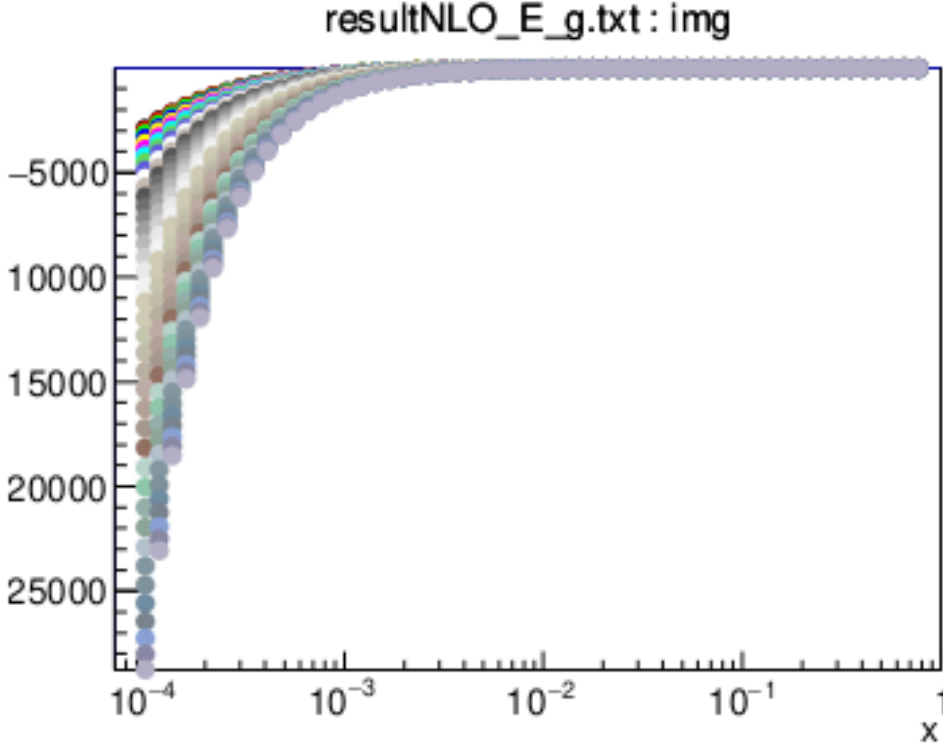
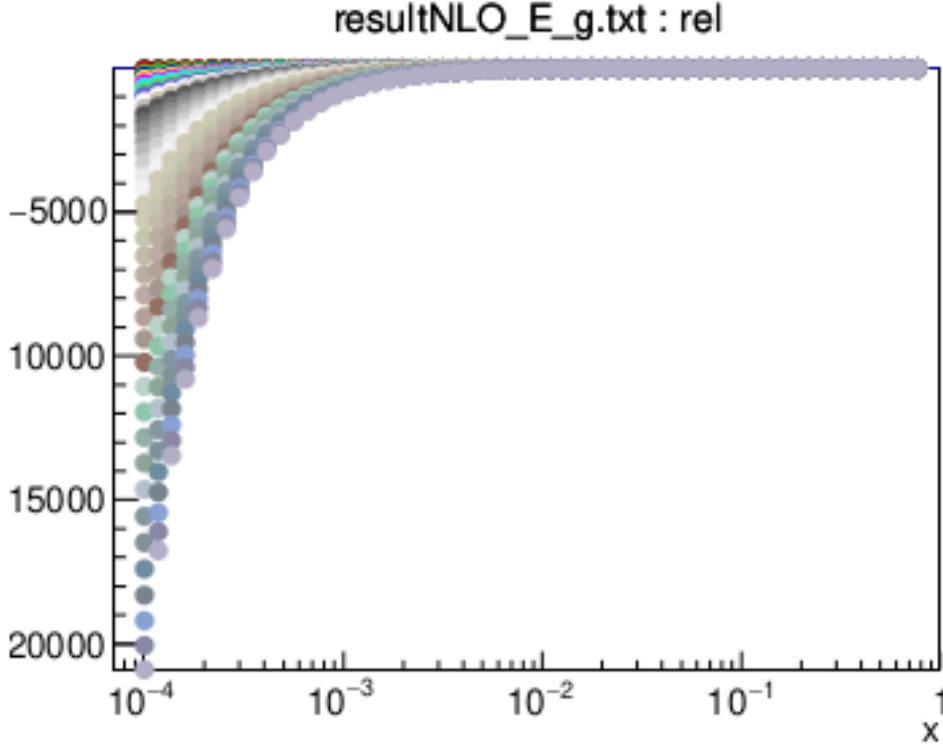
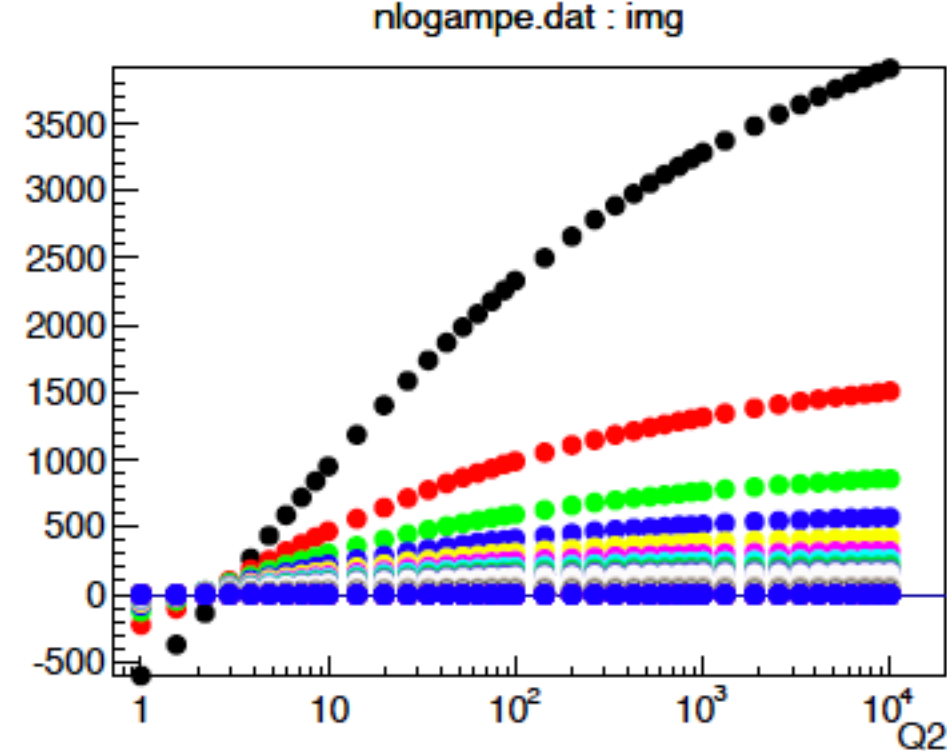
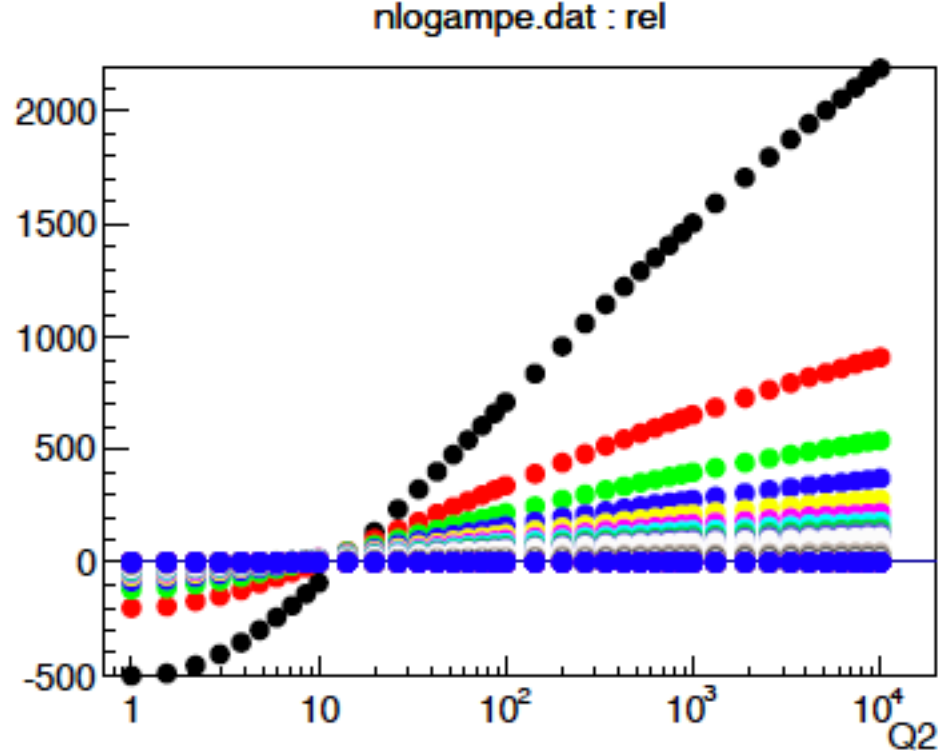
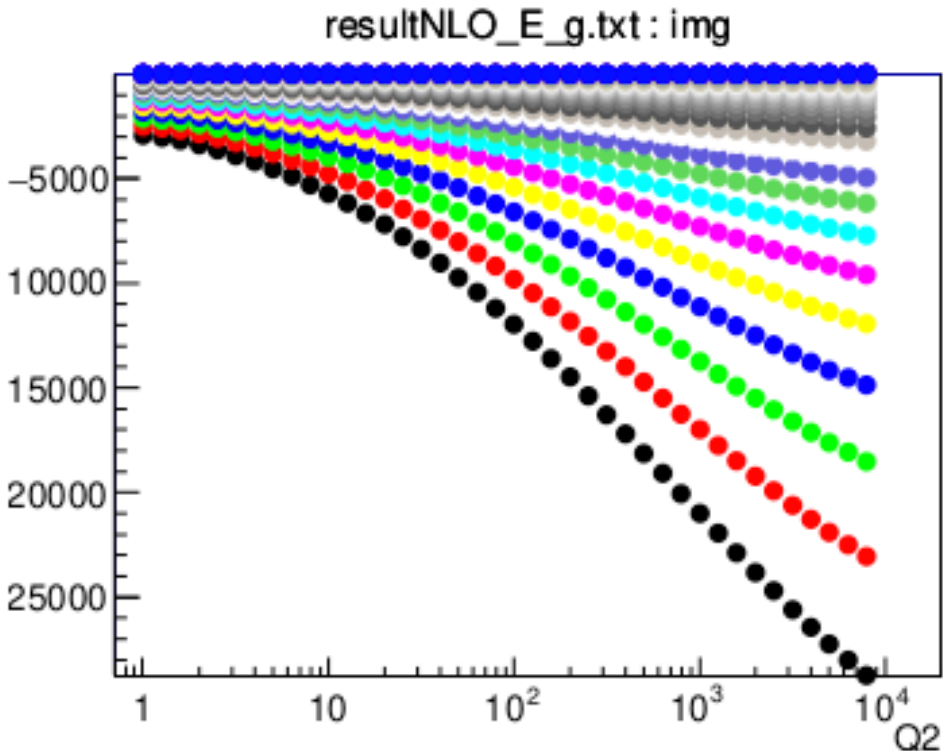
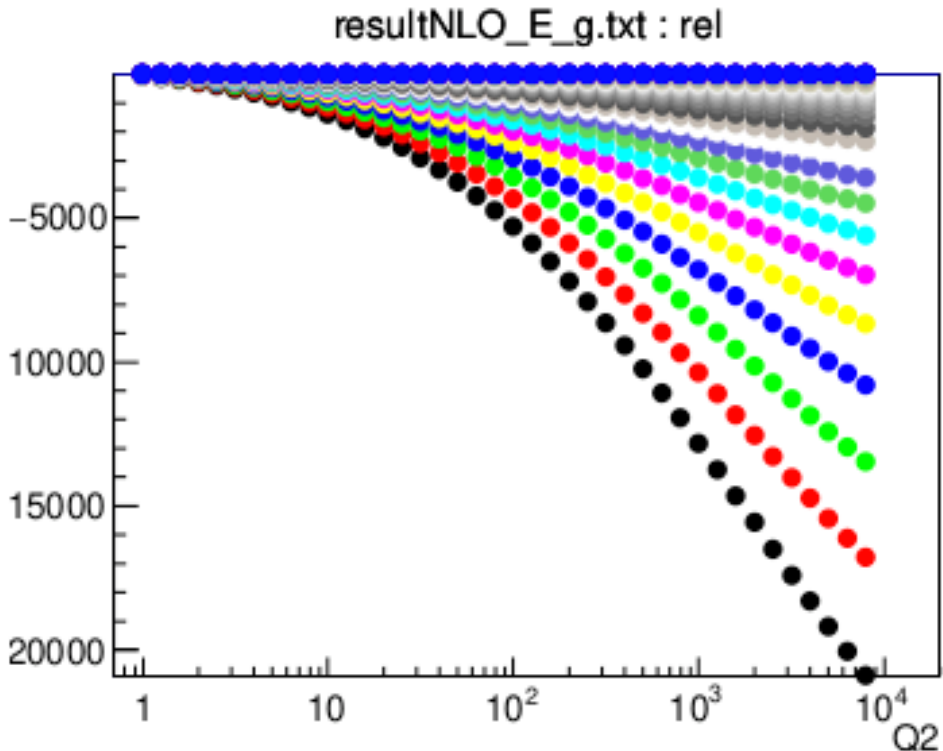
Gluon Ht NLO



Partons

Milou

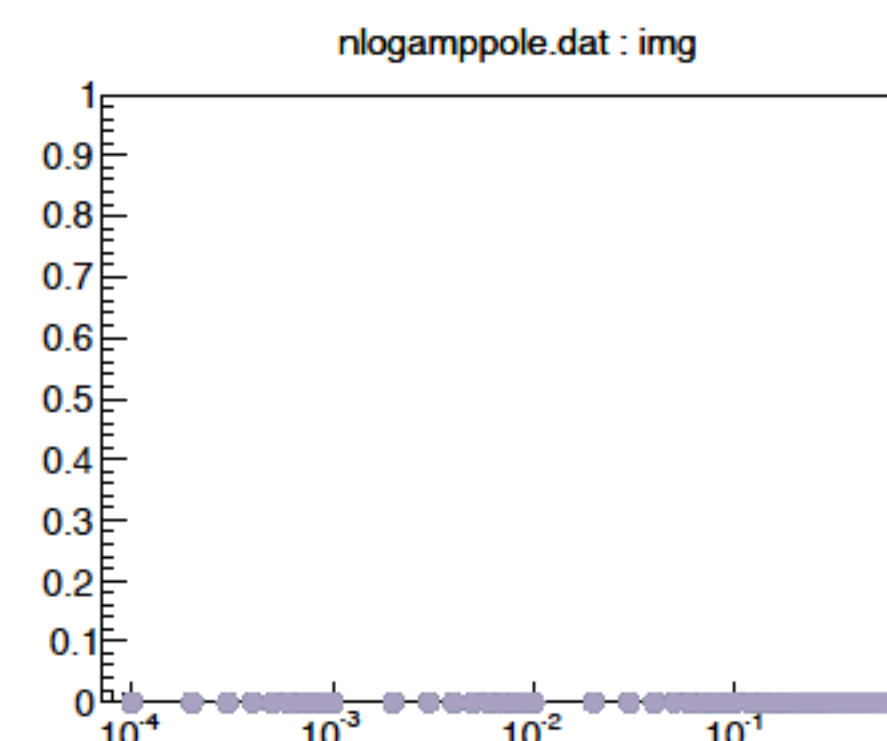
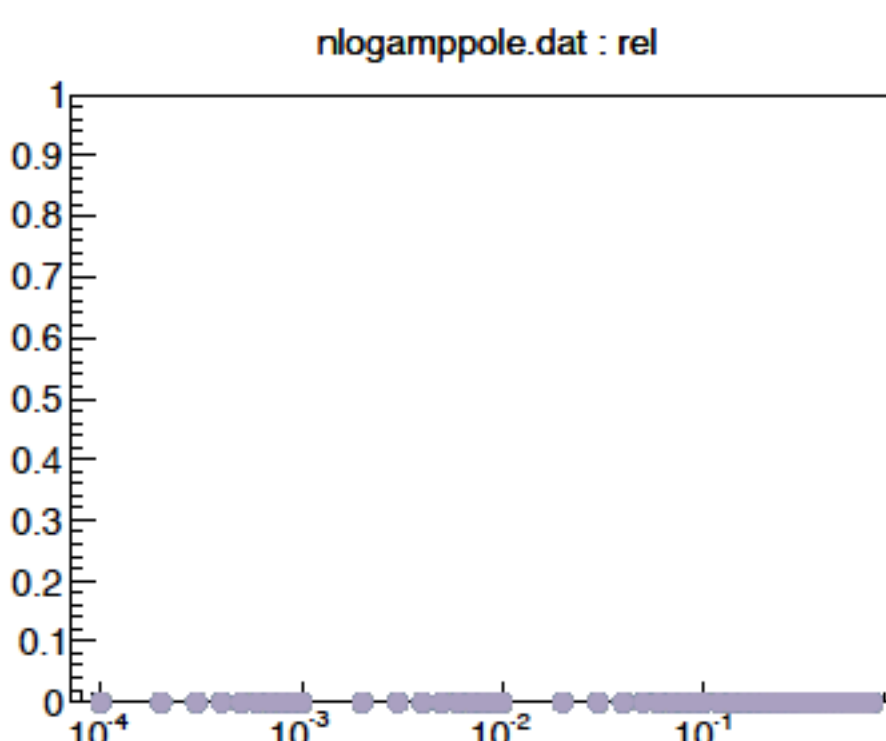
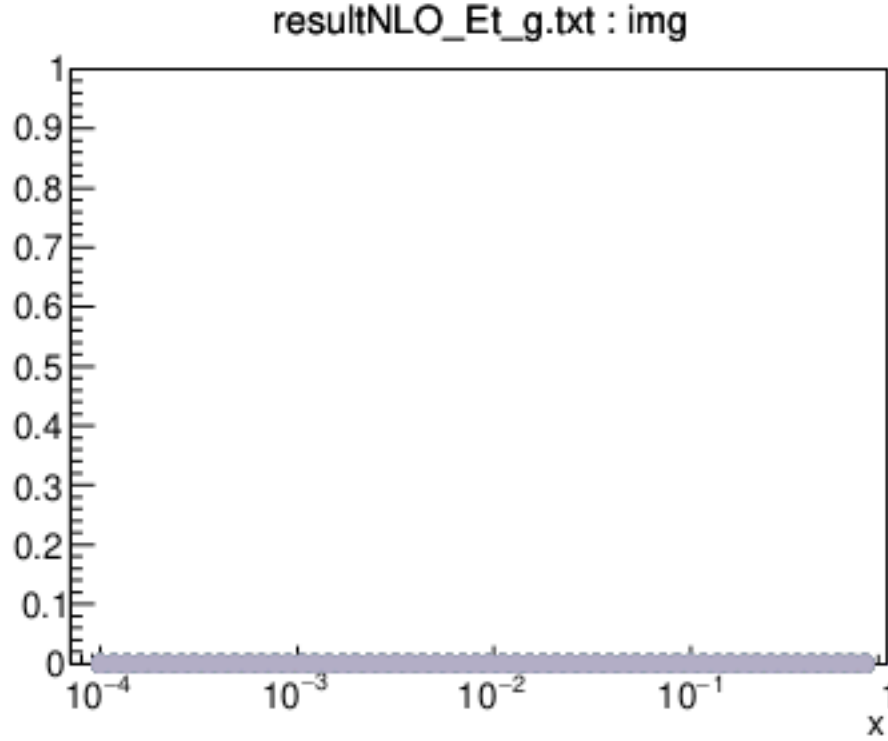
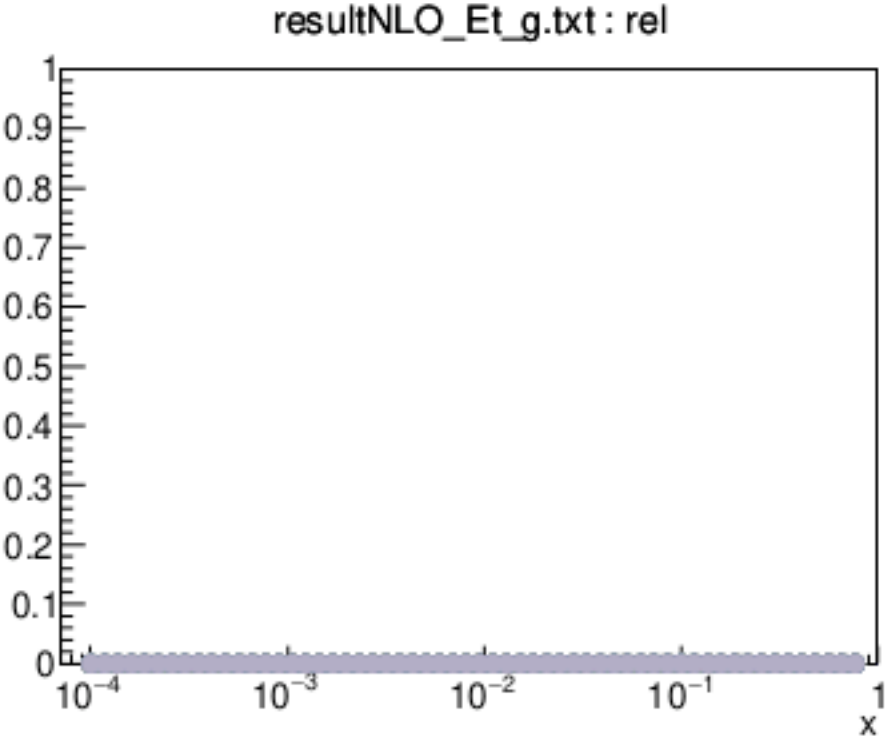
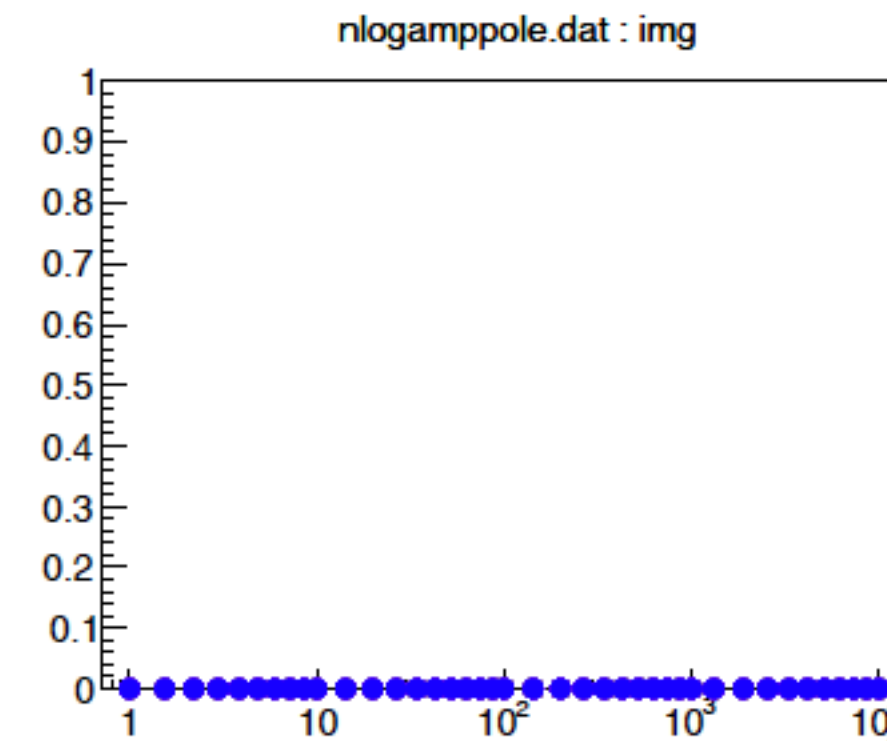
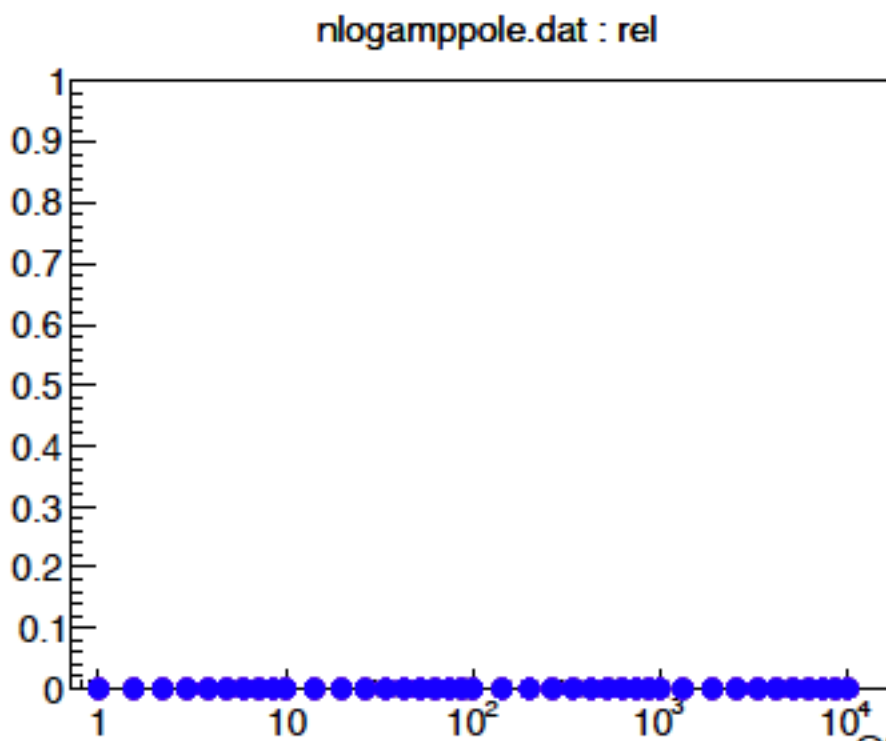
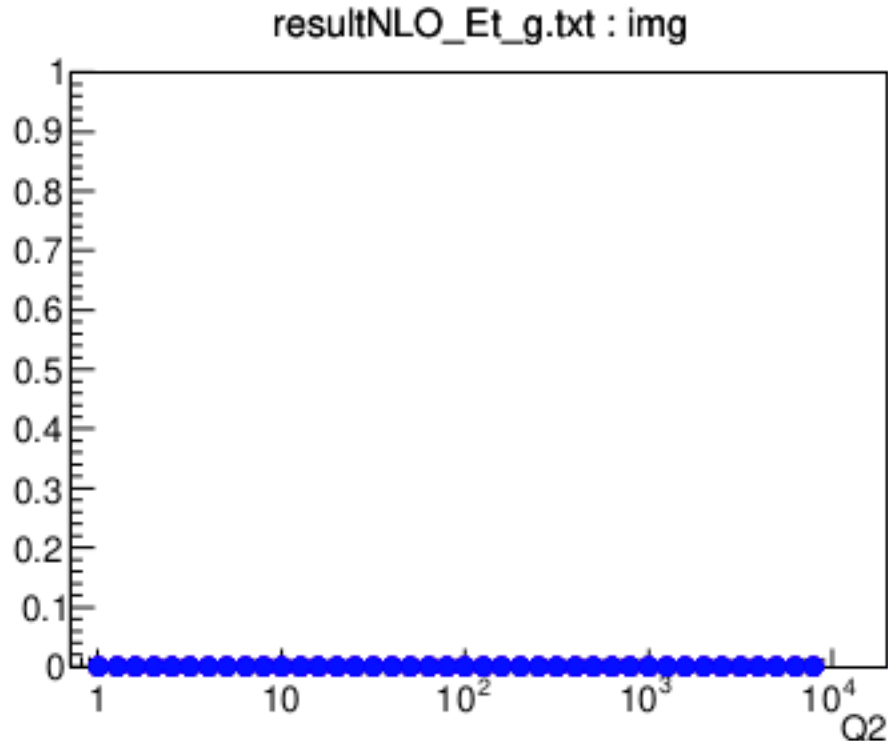
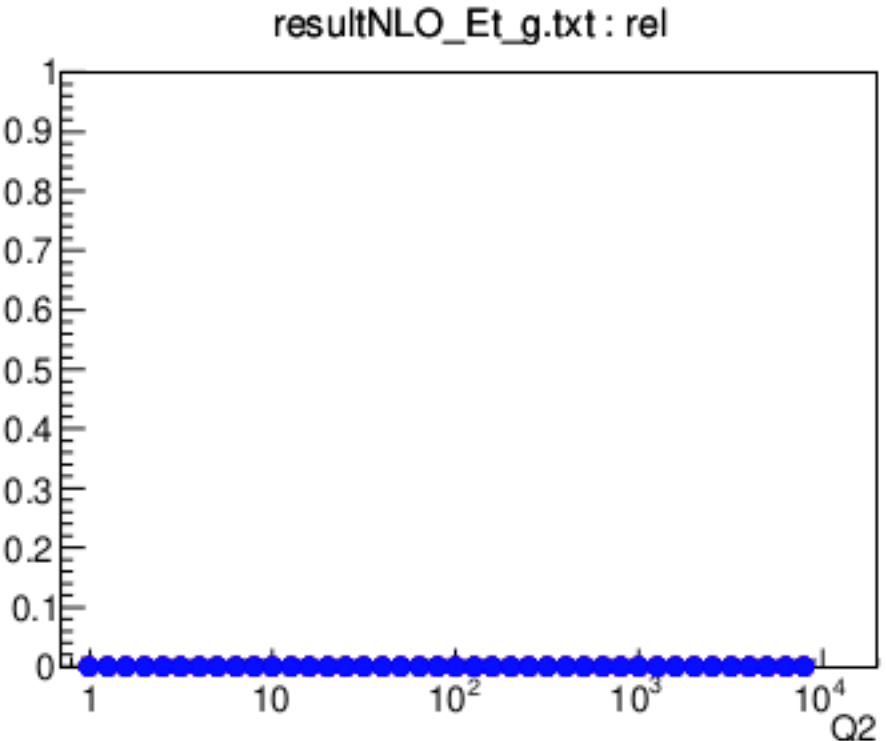
Gluon E NLO



Partons

Milou

Gluon Et NLO



Partons

Milou

C --- Parameters for t-dependence (see code)

C

ITFORM 0

c BQCST 7.00

c BQCST 5.45

BQCST 5.50 

BQSLOPE 0.0

c BGCST 7.00

BGCST 5.50

BGSLOPE 0.0

Q0SQ 1.0

X0DEF 0.1e0

C --- Kinematic domain

C TMIN and TMAX are in GeV², negative

C |TMIN| = |t|_{min}

C |TMAX| = |t|_{max}

C Default settings

XMIN 1.0e-4

c XMIN 0.05

XMAX 1.0

c XMAX 1.2e-2

QMIN 1.0

QMAX 10000.0

c QMIN 10.

c QMAX 15.0

c TMIN -0.8

TMIN -0.01

c TMIN -0.01

c TMAX -1.5

TMAX -1.5