

Relative Systematic Effect (MultiFold)

**ATLAS**

Simulation Internal

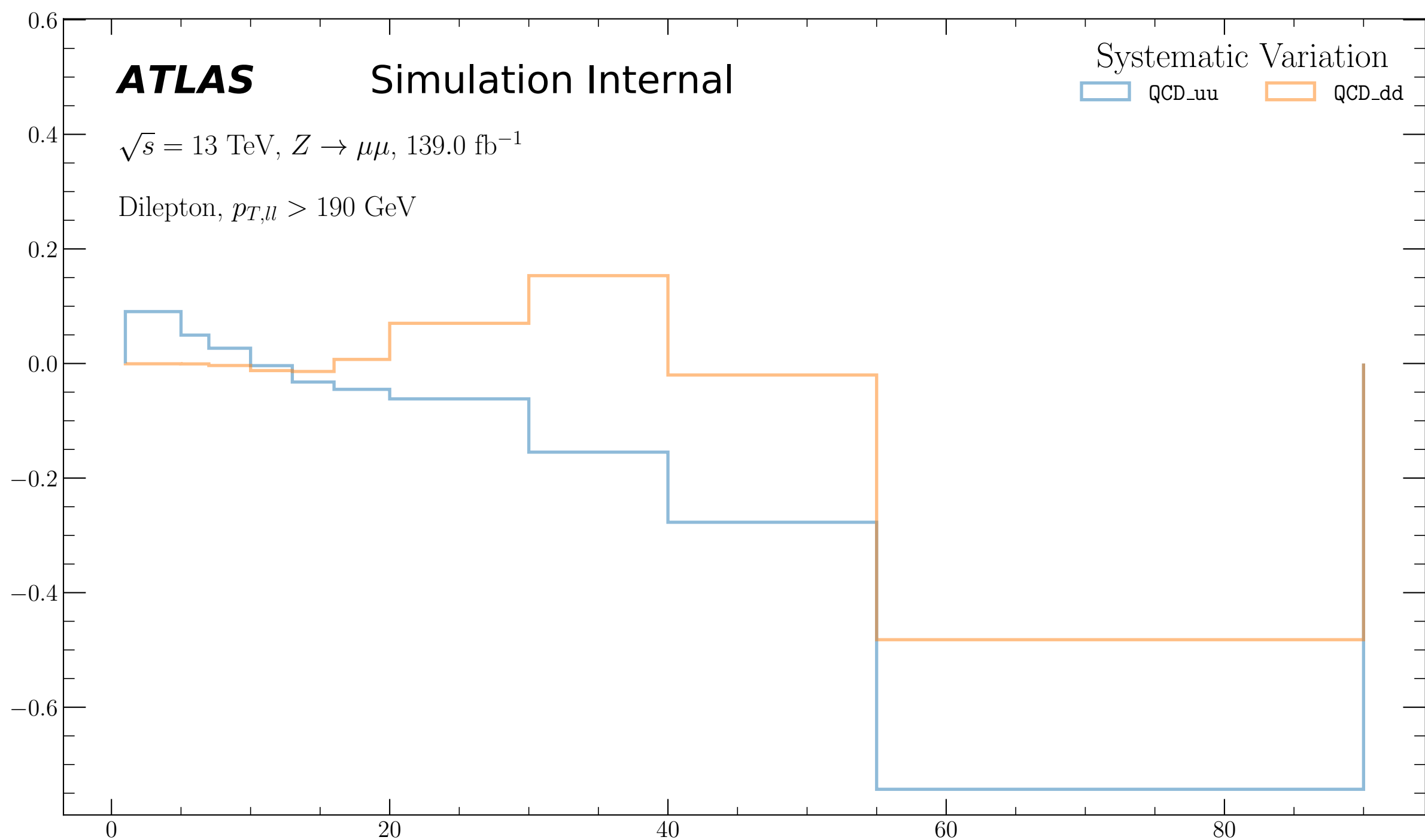
$\sqrt{s} = 13 \text{ TeV}$ ,  $Z \rightarrow \mu\mu$ ,  $139.0 \text{ fb}^{-1}$

Dilepton,  $p_{T,l} > 190 \text{ GeV}$

Systematic Variation

QCD\_uu

QCD\_dd



Leading track jet  $n_{ch}$

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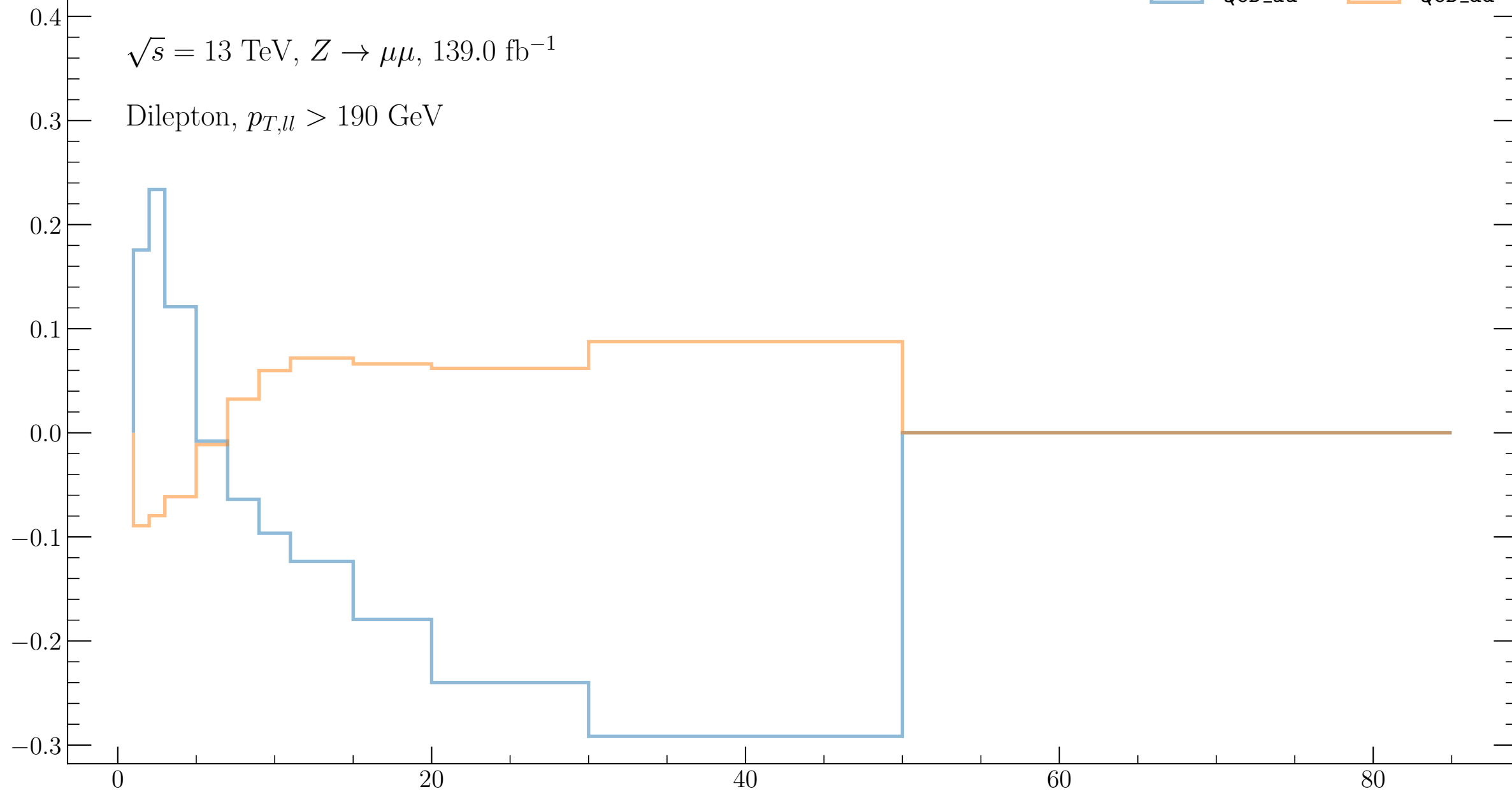
Systematic Variation

QCD\_uu

QCD\_dd

$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton,  $p_{T,l} > 190 \text{ GeV}$



Subleading track jet  $n_{ch}$

Relative Systematic Effect (MultiFold)

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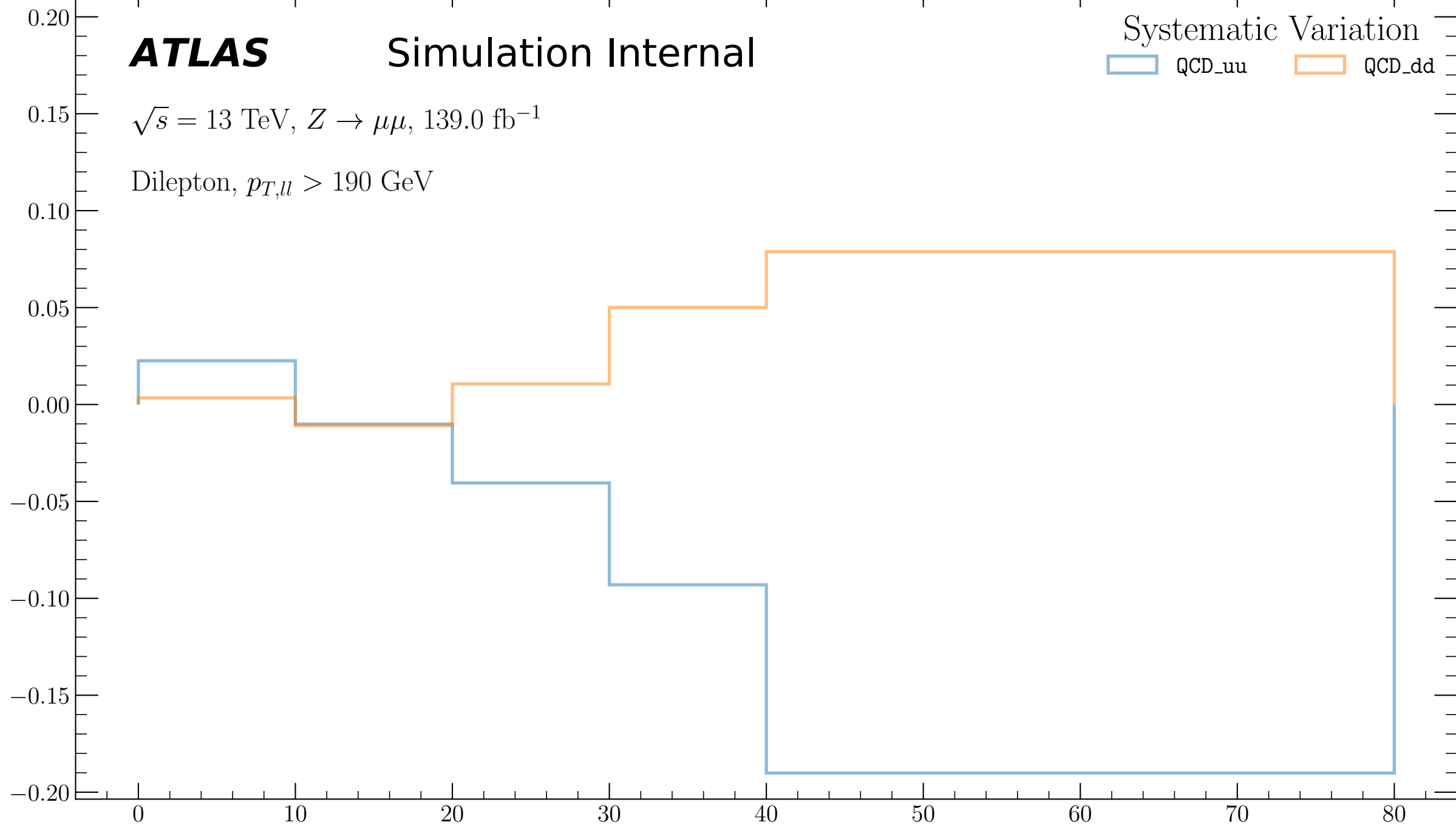
Systematic Variation

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$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton,  $p_{T,l} > 190 \text{ GeV}$



Leading track jet  $m$  [GeV]

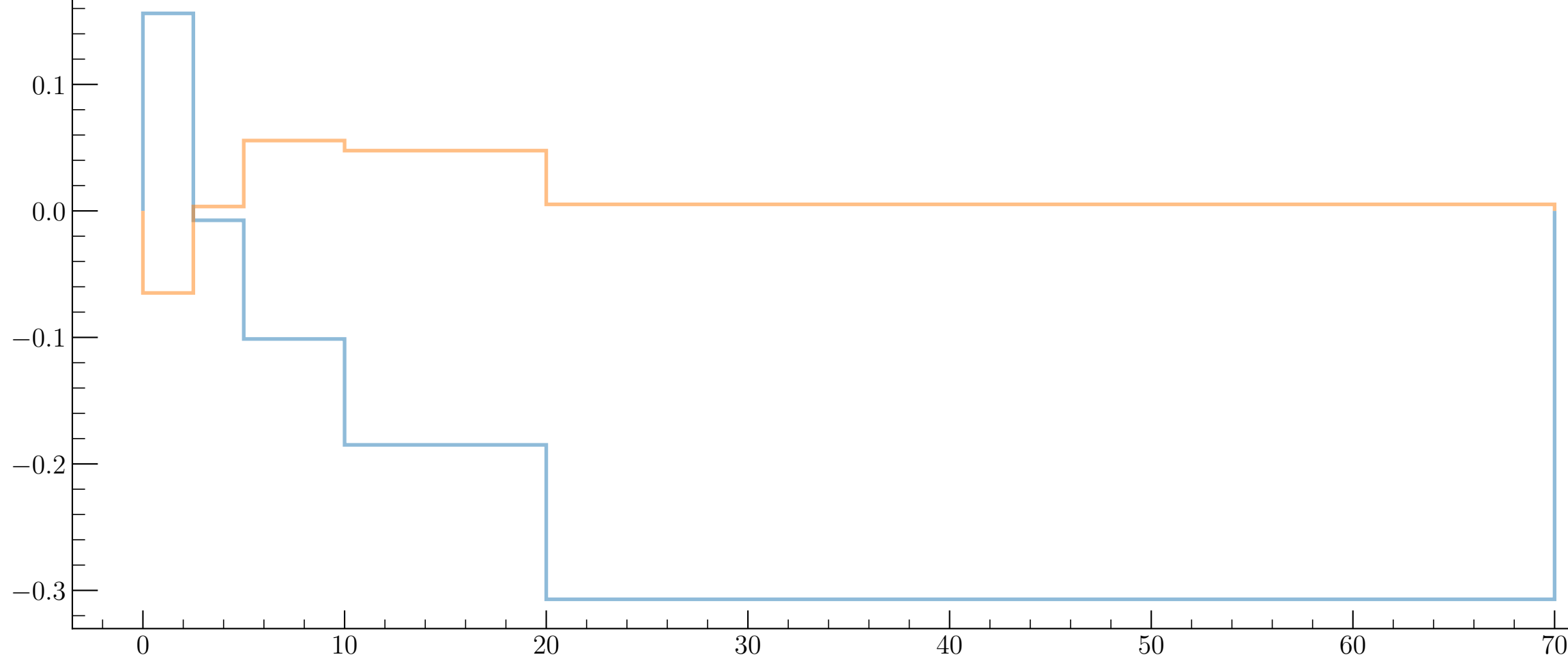
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Systematic Variation

QCD\_uu

QCD\_dd

 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton,  $p_{T,l} > 190 \text{ GeV}$ Subleading track jet  $m$  [GeV]

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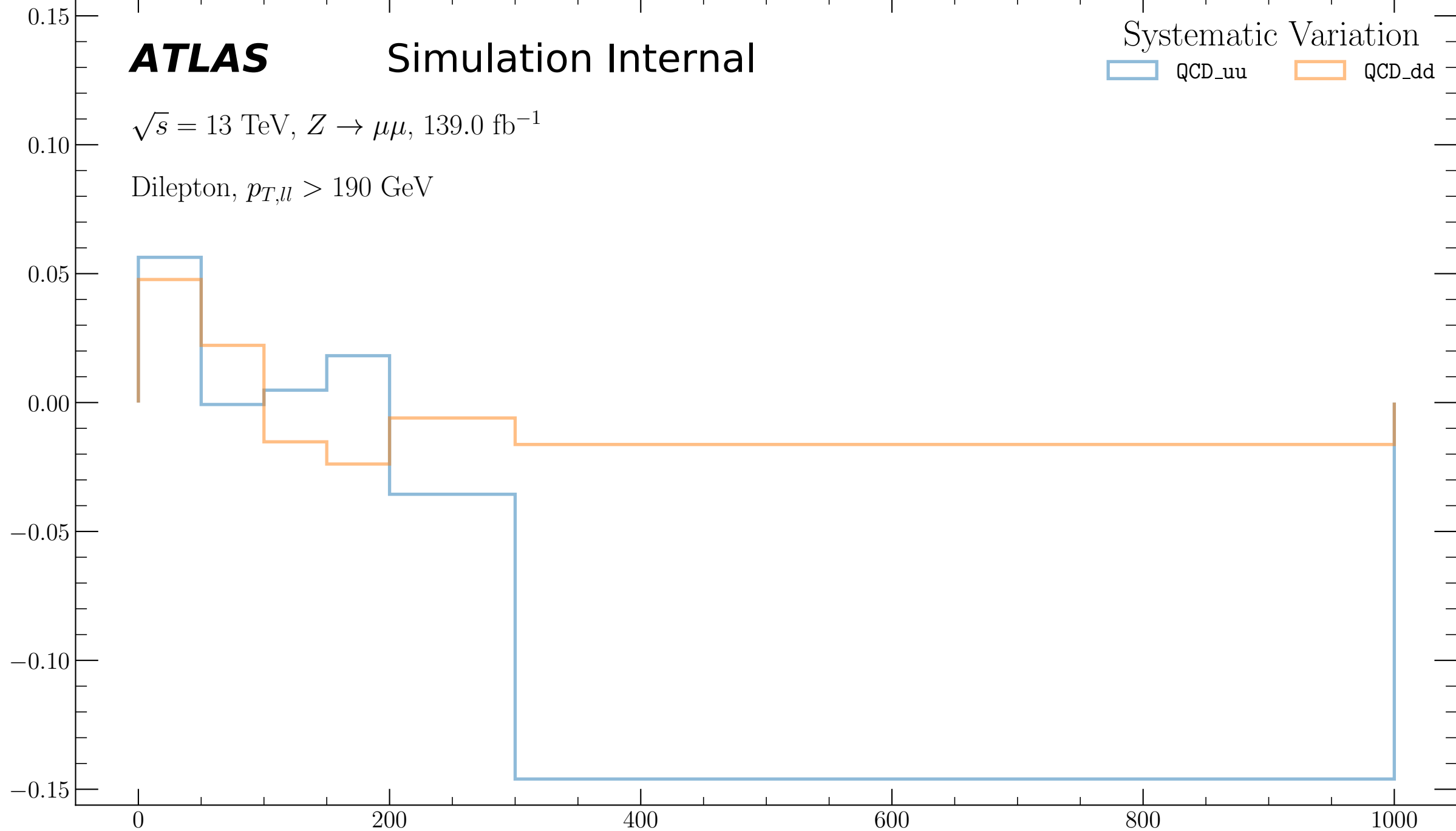
Systematic Variation

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Dilepton,  $p_{T,l} > 190 \text{ GeV}$



Leading track jet  $p_T$  [GeV]

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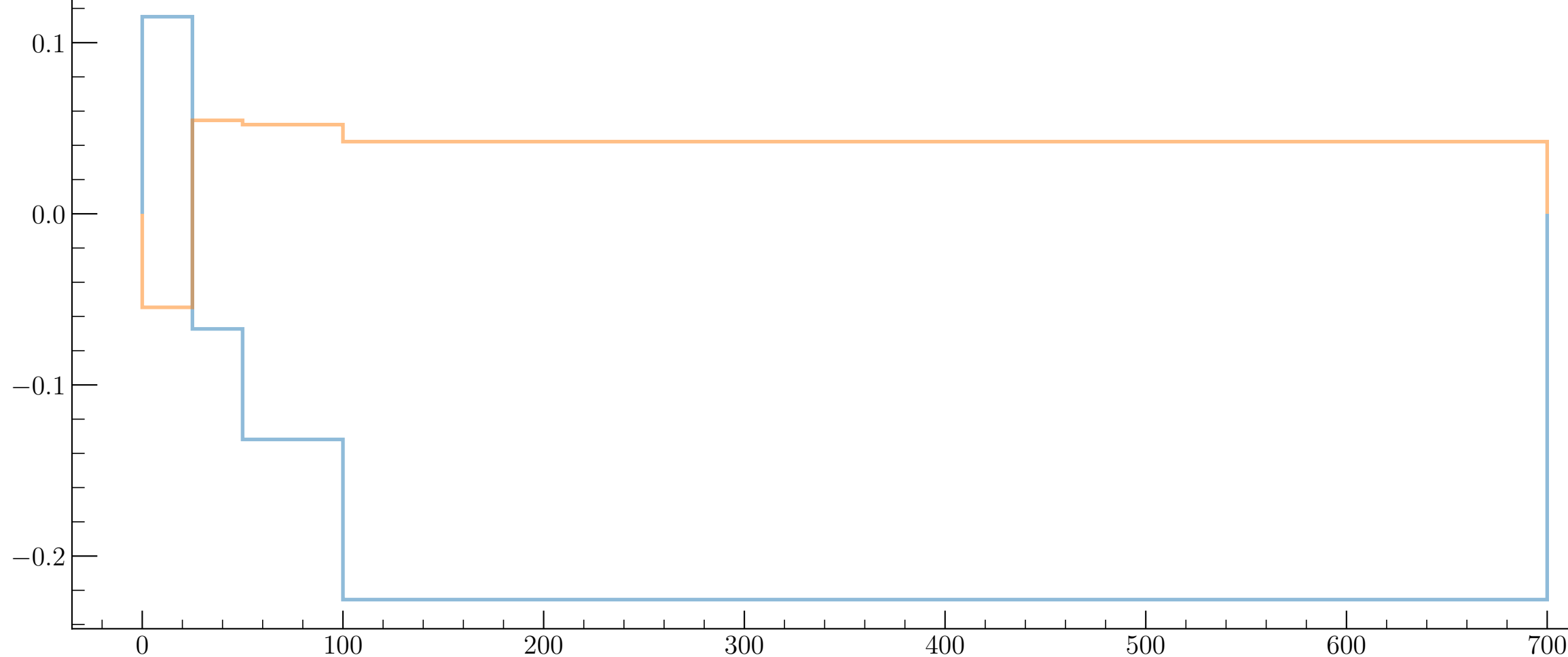
Systematic Variation

QCD\_uu

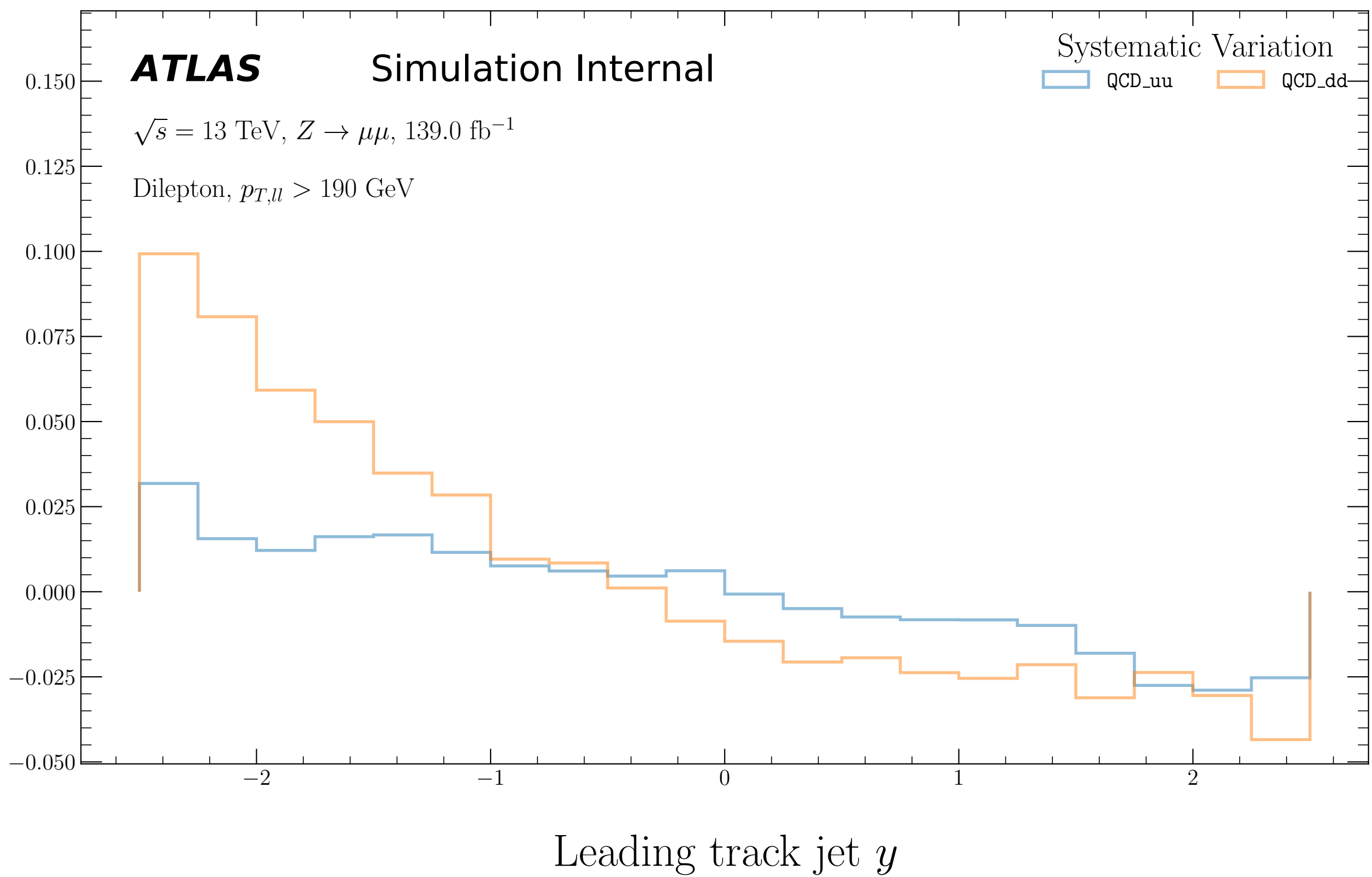
QCD\_dd

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Dilepton,  $p_{T,u} > 190 \text{ GeV}$



Subleading track jet  $p_T$  [GeV]



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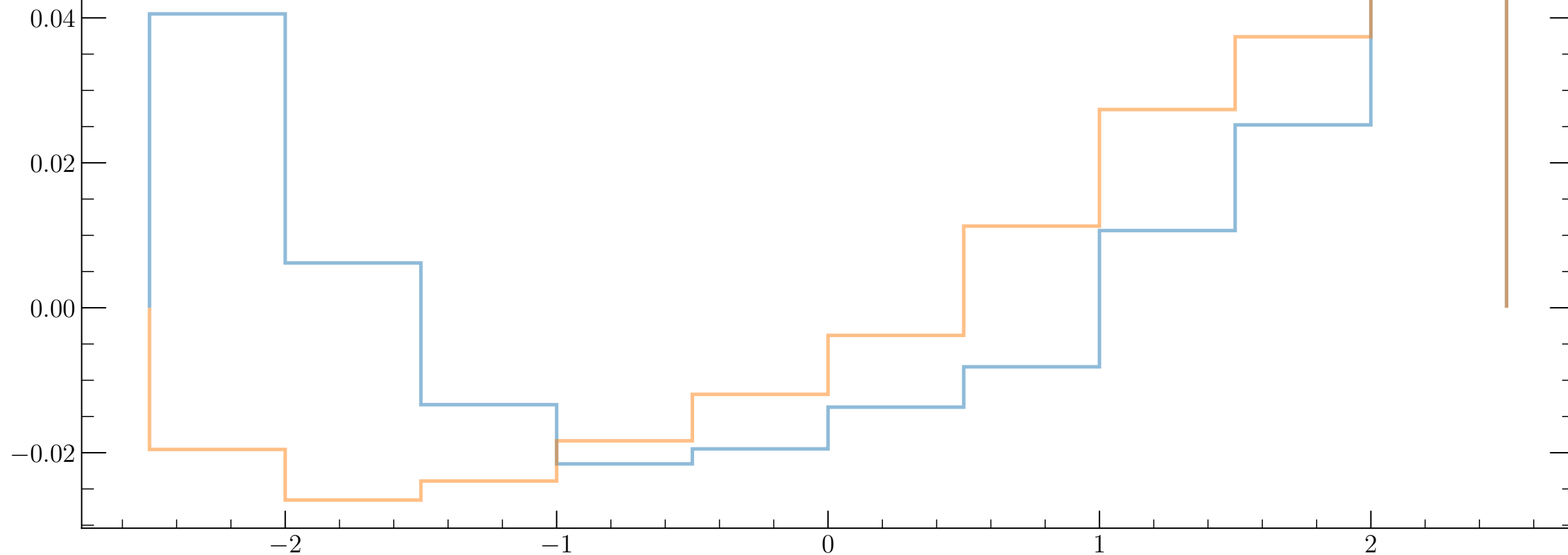
Systematic Variation

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Subleading track jet  $y$



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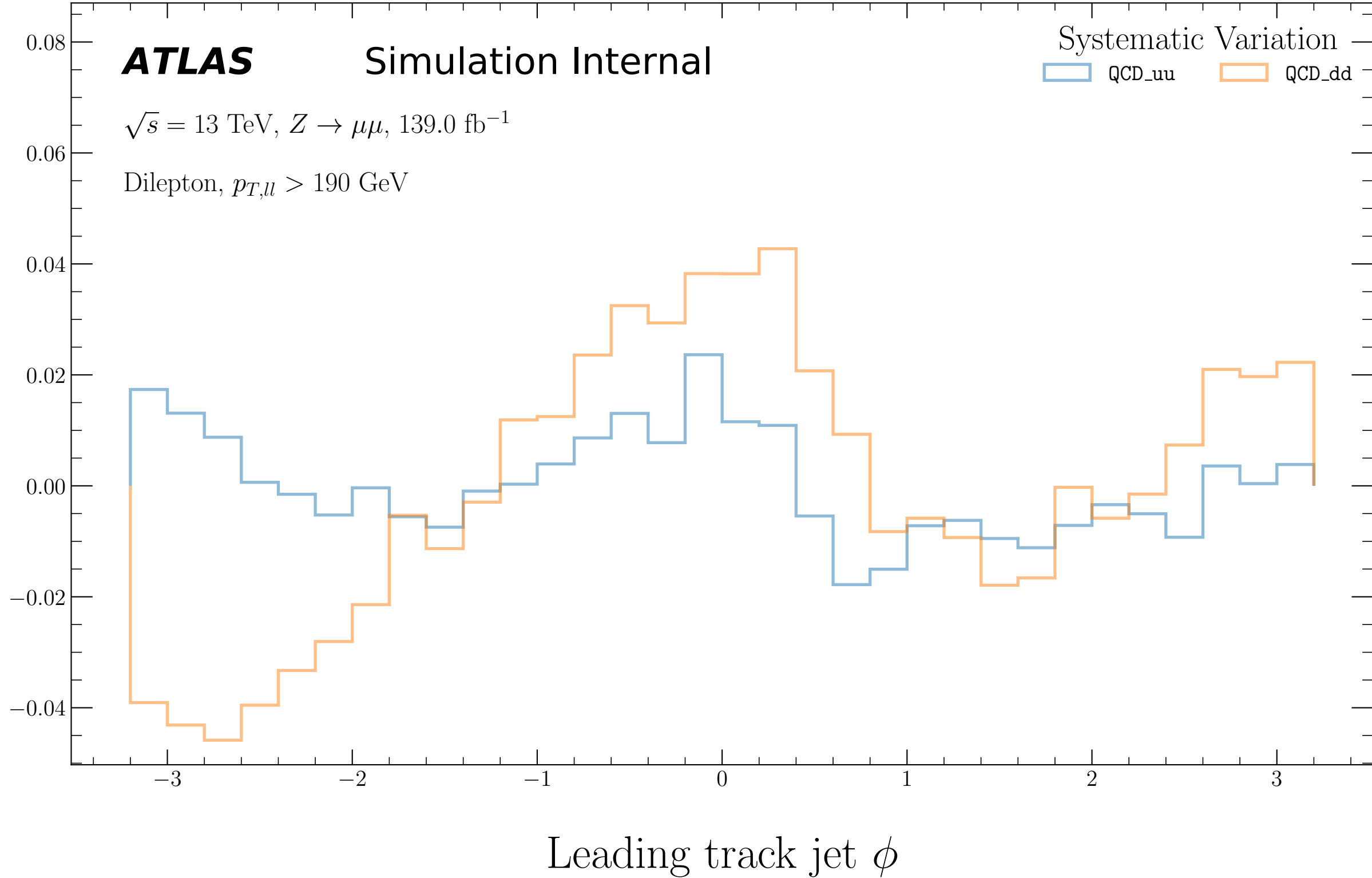
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton,  $p_{T,l} > 190 \text{ GeV}$

Systematic Variation

QCD\_uu

QCD\_dd



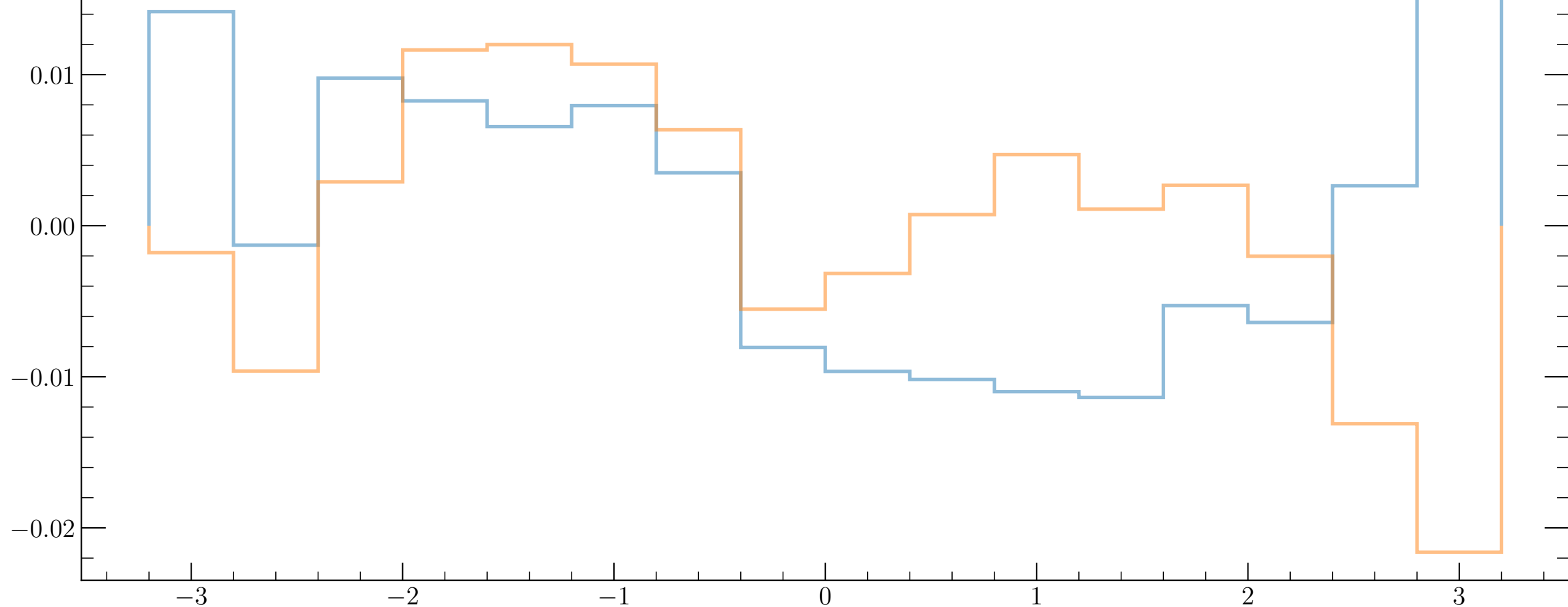
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Systematic Variation

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 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton,  $p_{T,l} > 190 \text{ GeV}$ Subleading track jet  $\phi$

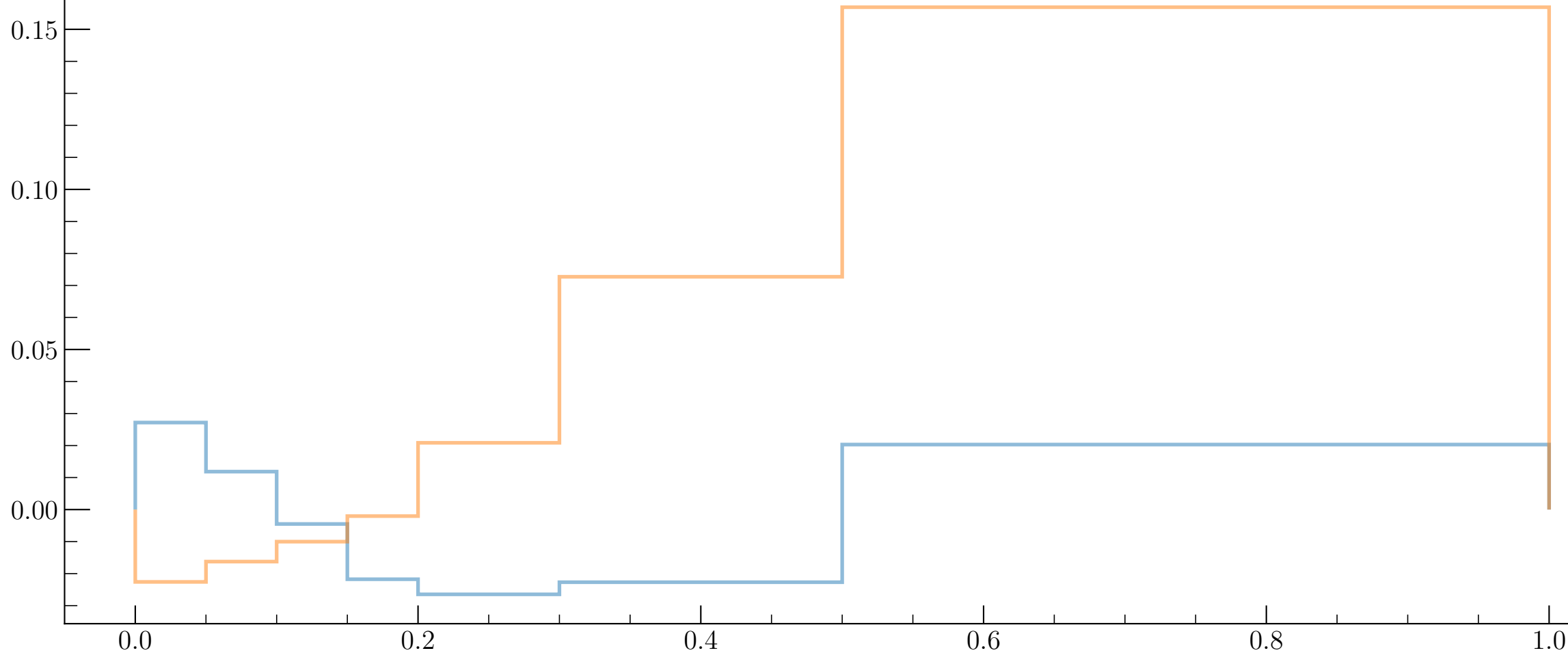
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Systematic Variation

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 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton,  $p_{T,l} > 190 \text{ GeV}$ Leading track jet  $\tau_1$

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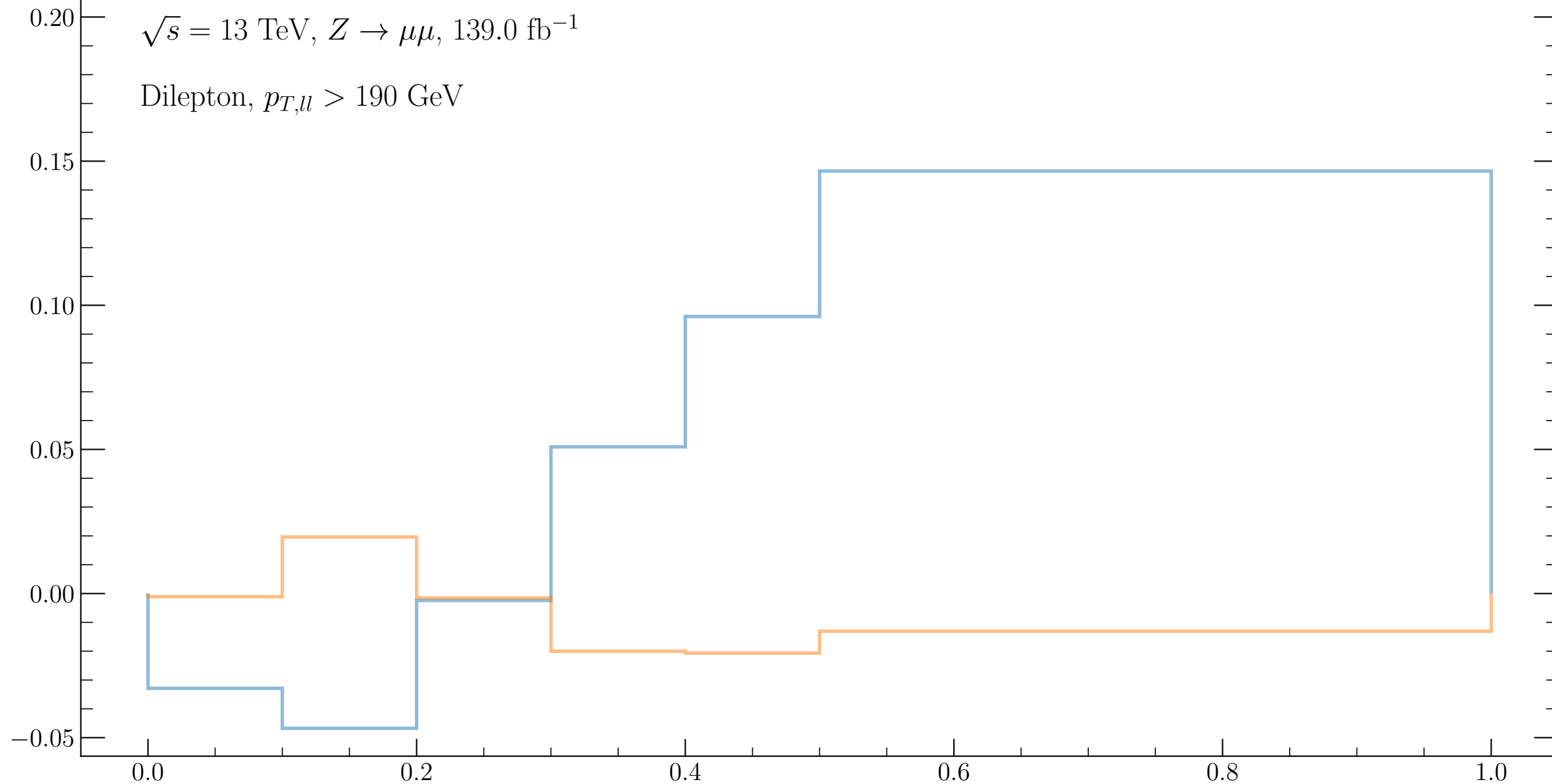
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Subleading track jet  $\tau_1$

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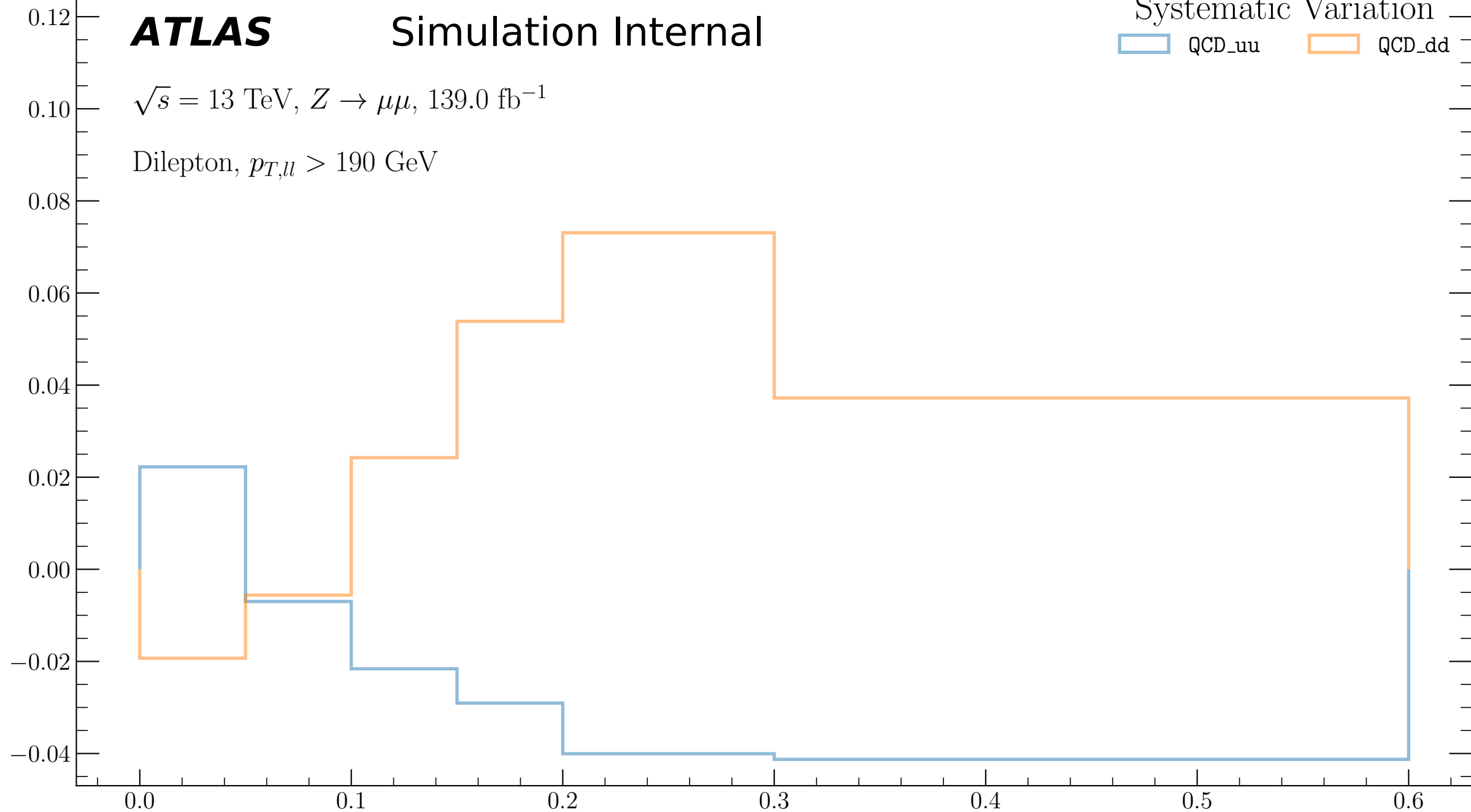
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Simulation Internal

Systematic Variation  
QCD\_uu QCD\_dd

$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton,  $p_{T,l} > 190 \text{ GeV}$



Leading track jet  $\tau_2$

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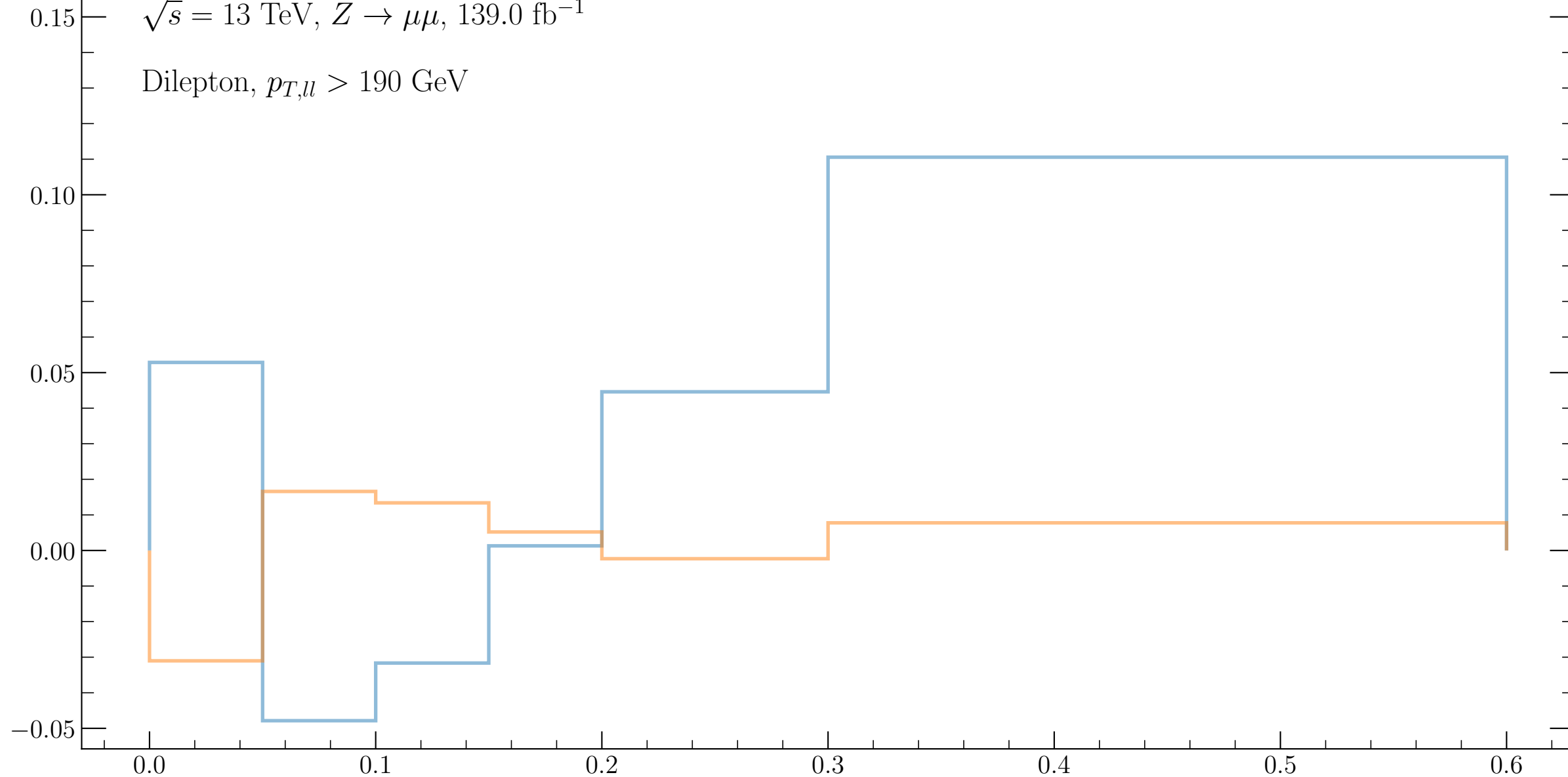
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Systematic Variation  
QCD\_uu QCD\_dd

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Dilepton,  $p_{T,l} > 190 \text{ GeV}$



Subleading track jet  $\tau_2$

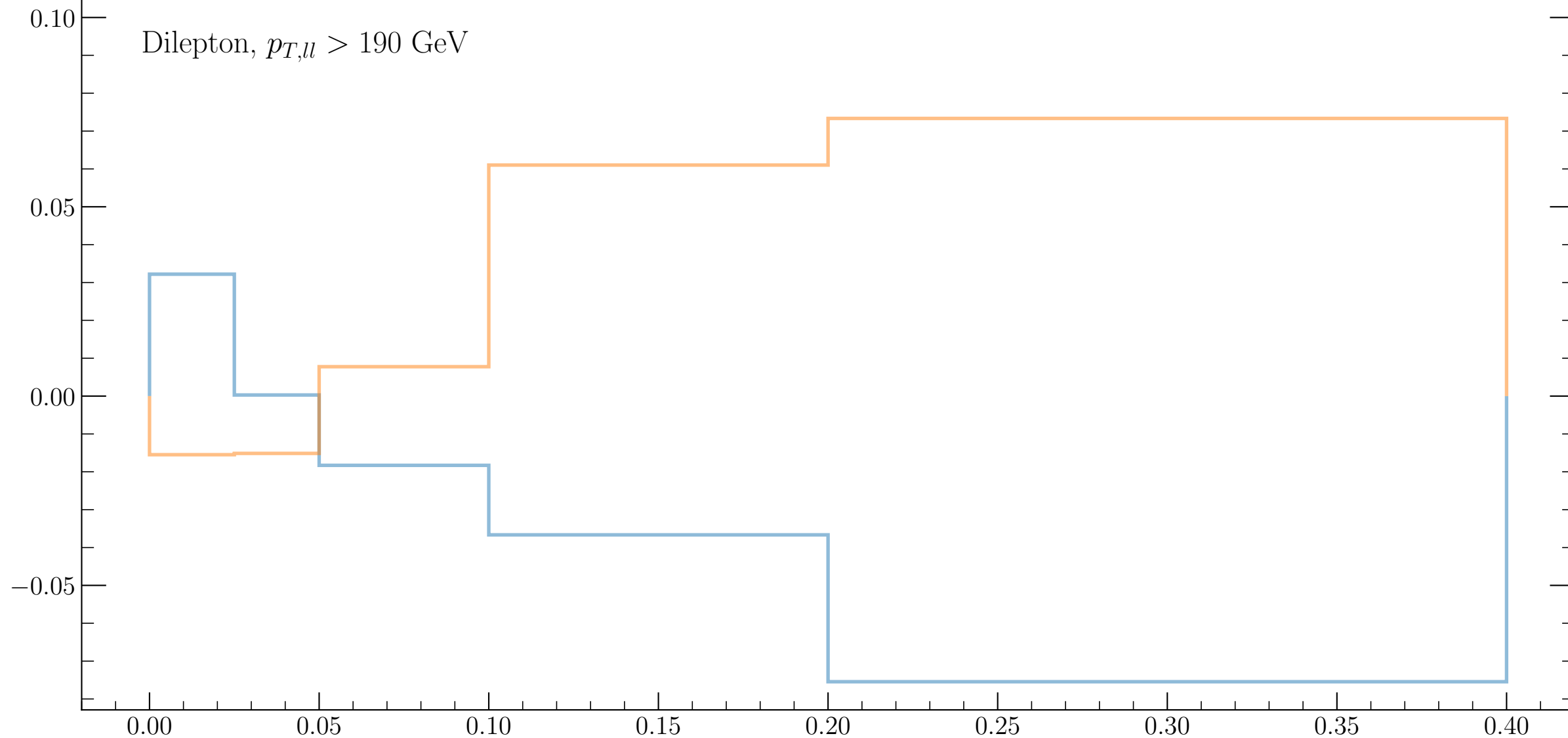
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Systematic Variation

QCD\_uu

QCD\_dd

 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton,  $p_{T,l} > 190 \text{ GeV}$ Leading track jet  $\tau_3$

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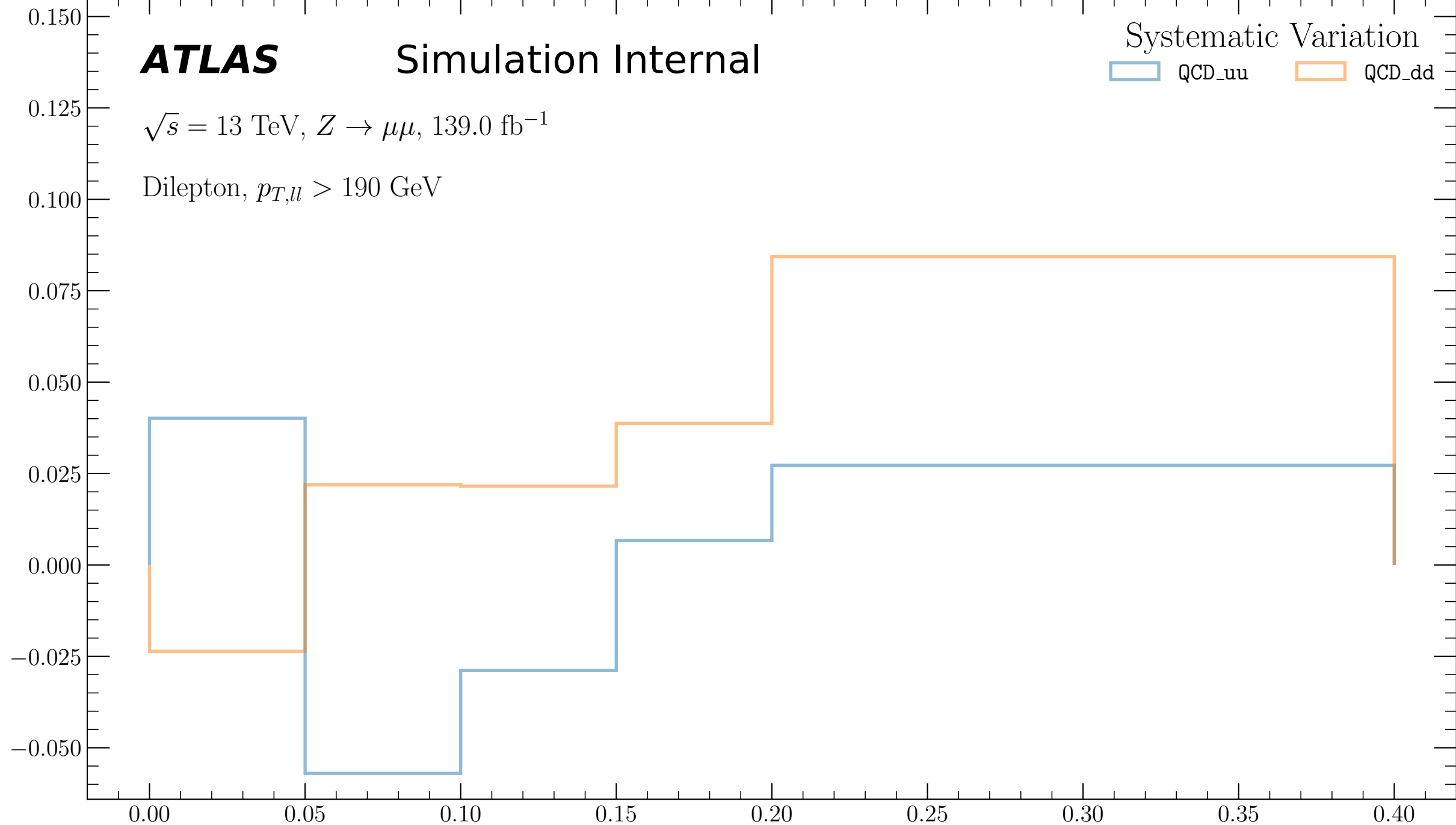
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Dilepton,  $p_{T,u} > 190 \text{ GeV}$



Subleading track jet  $\tau_3$



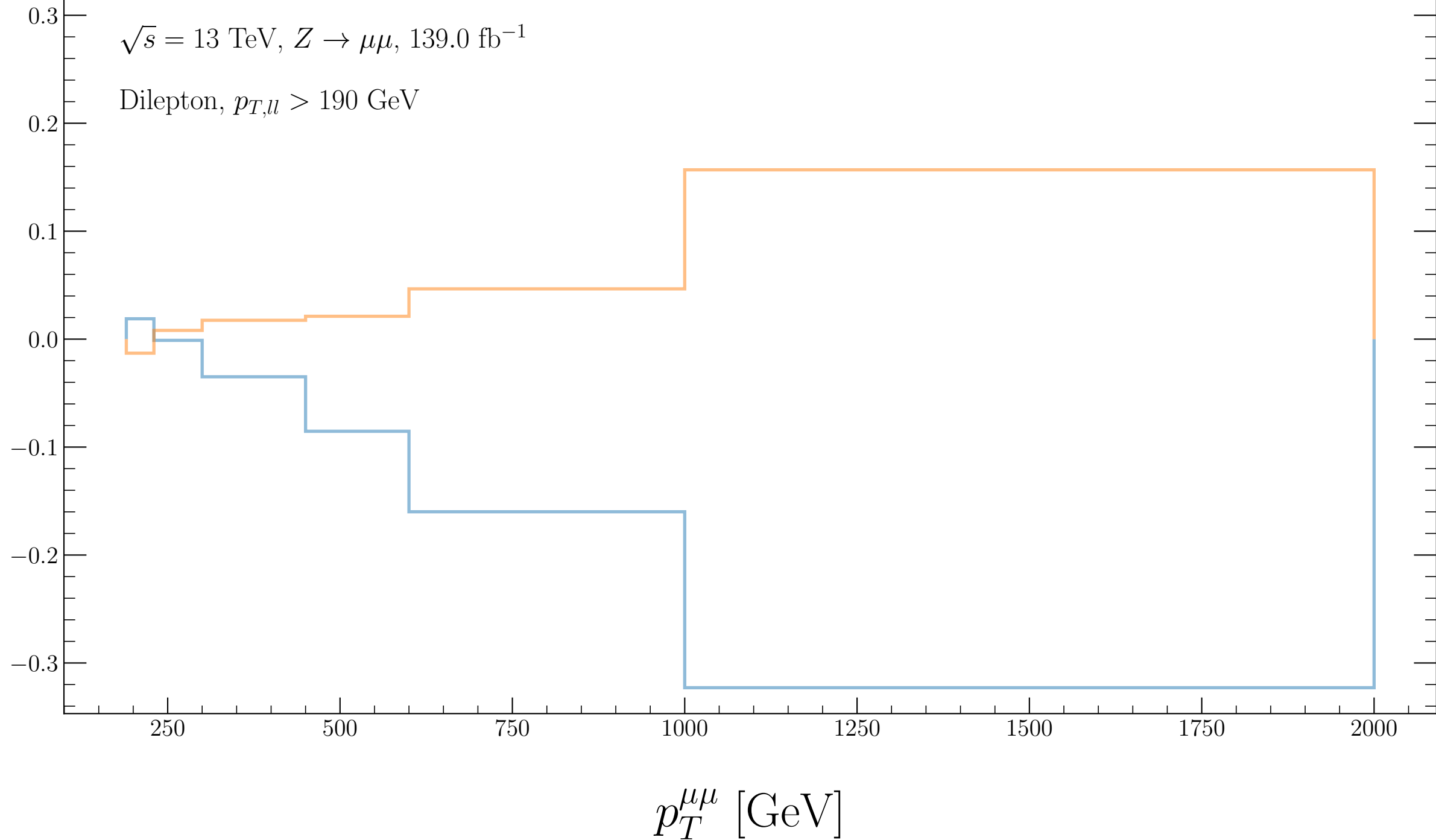
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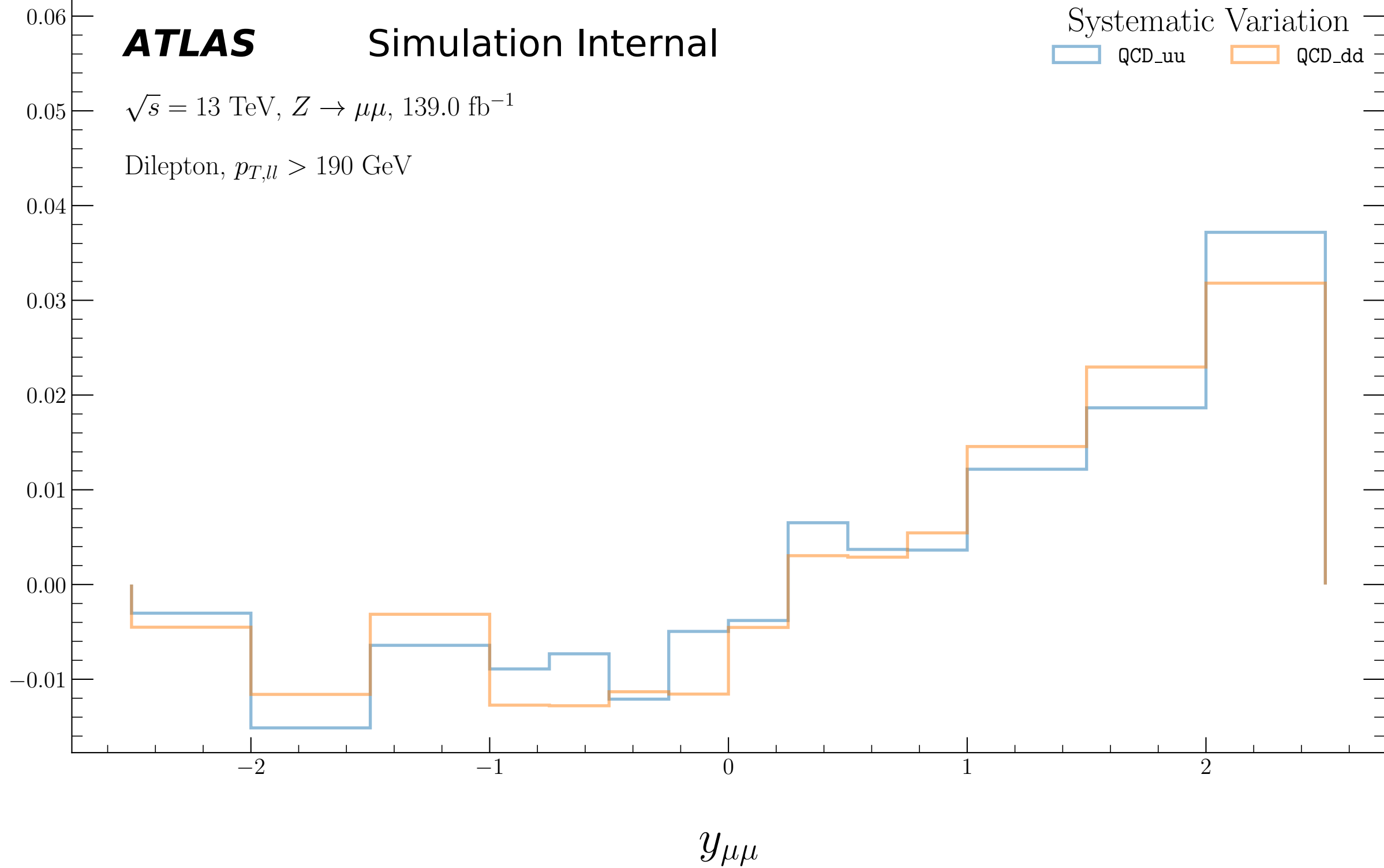
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 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton,  $p_{T,l} > 190 \text{ GeV}$ 

Systematic Variation

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QCD\_dd



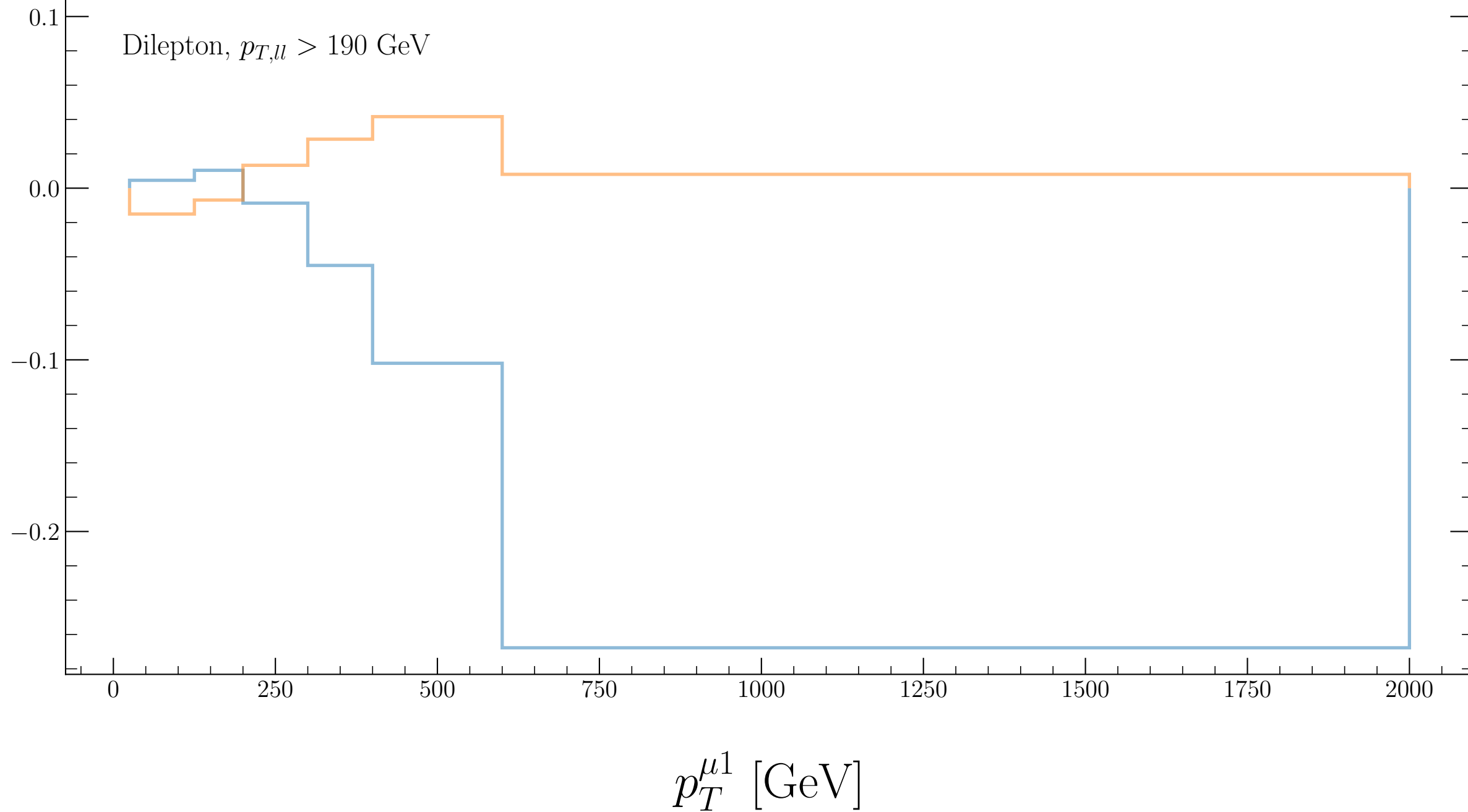
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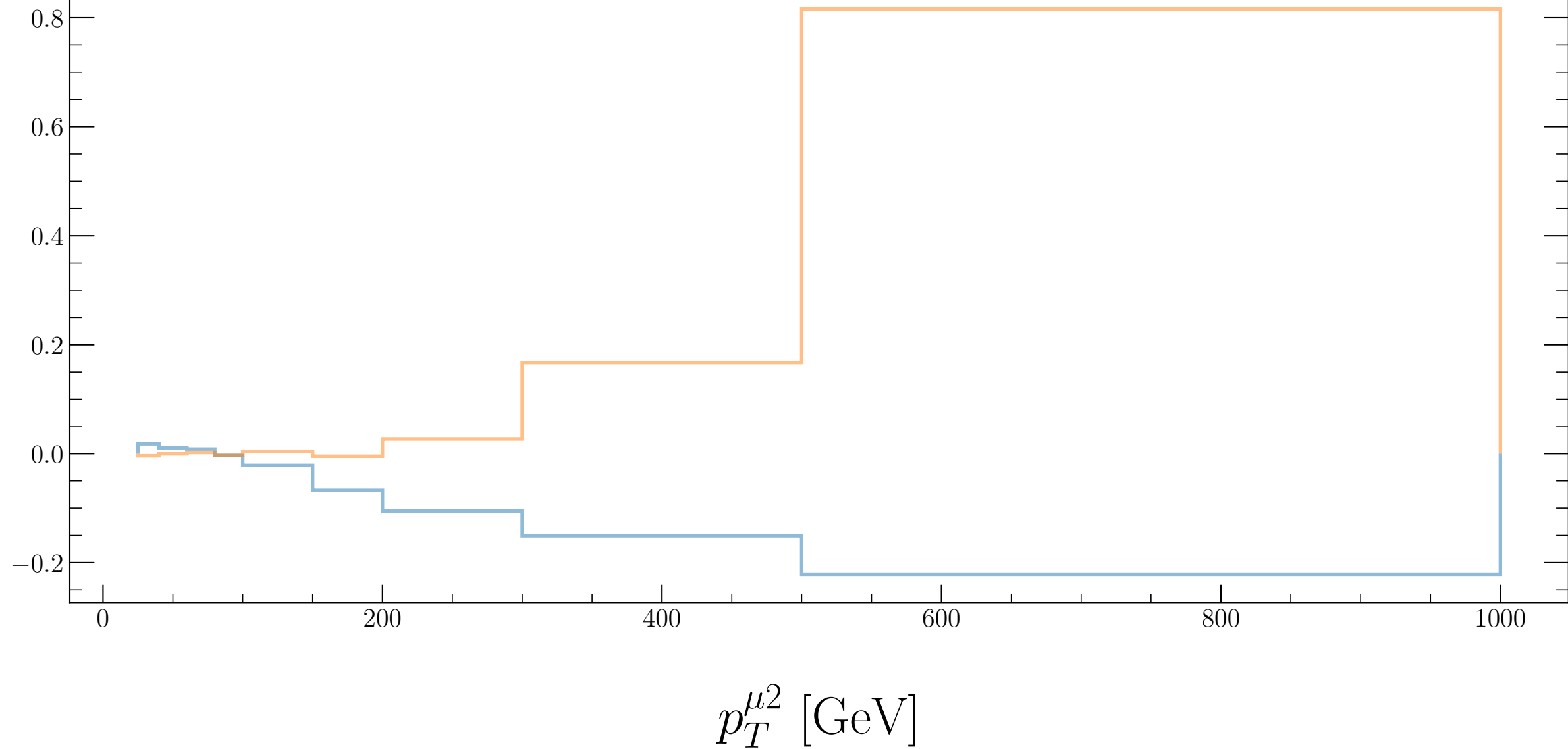
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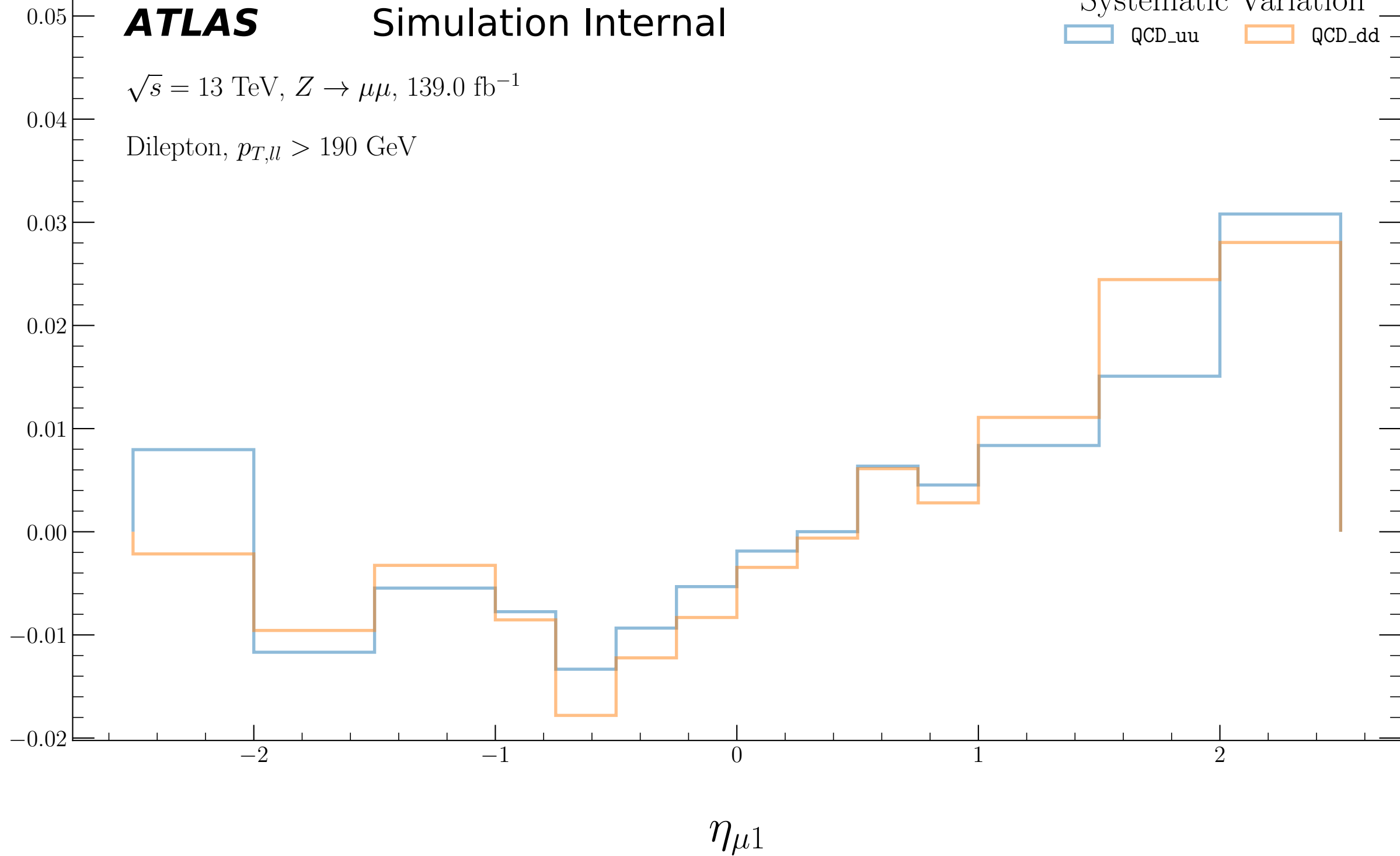
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 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton,  $p_{T,l} > 190 \text{ GeV}$ 0.06  
0.04  
0.02  
0.00  
-0.02

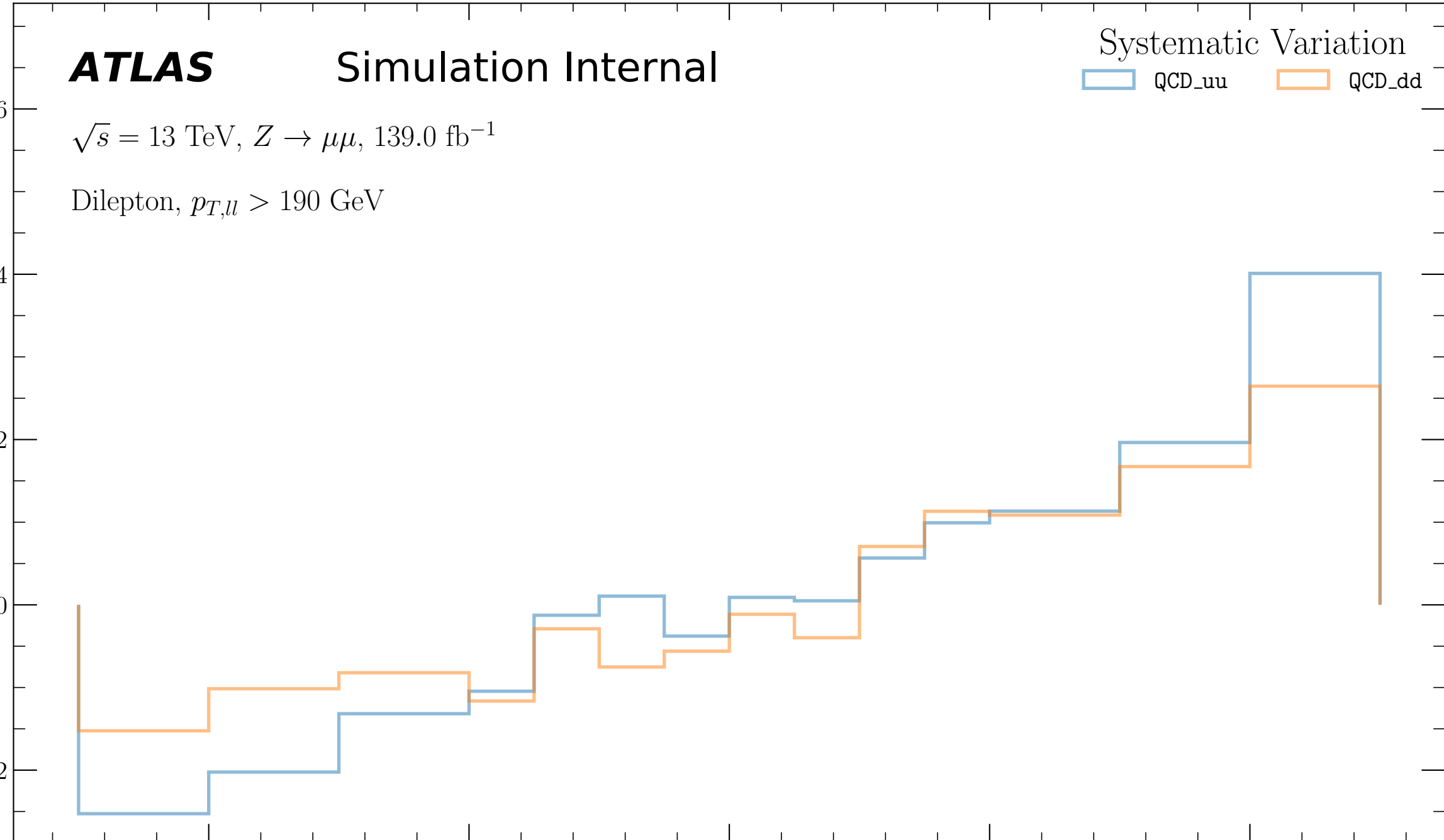
-2

-1

0

1

2

 $\eta_{\mu 2}$ -0.02  
0.00  
0.02  
0.04  
0.06

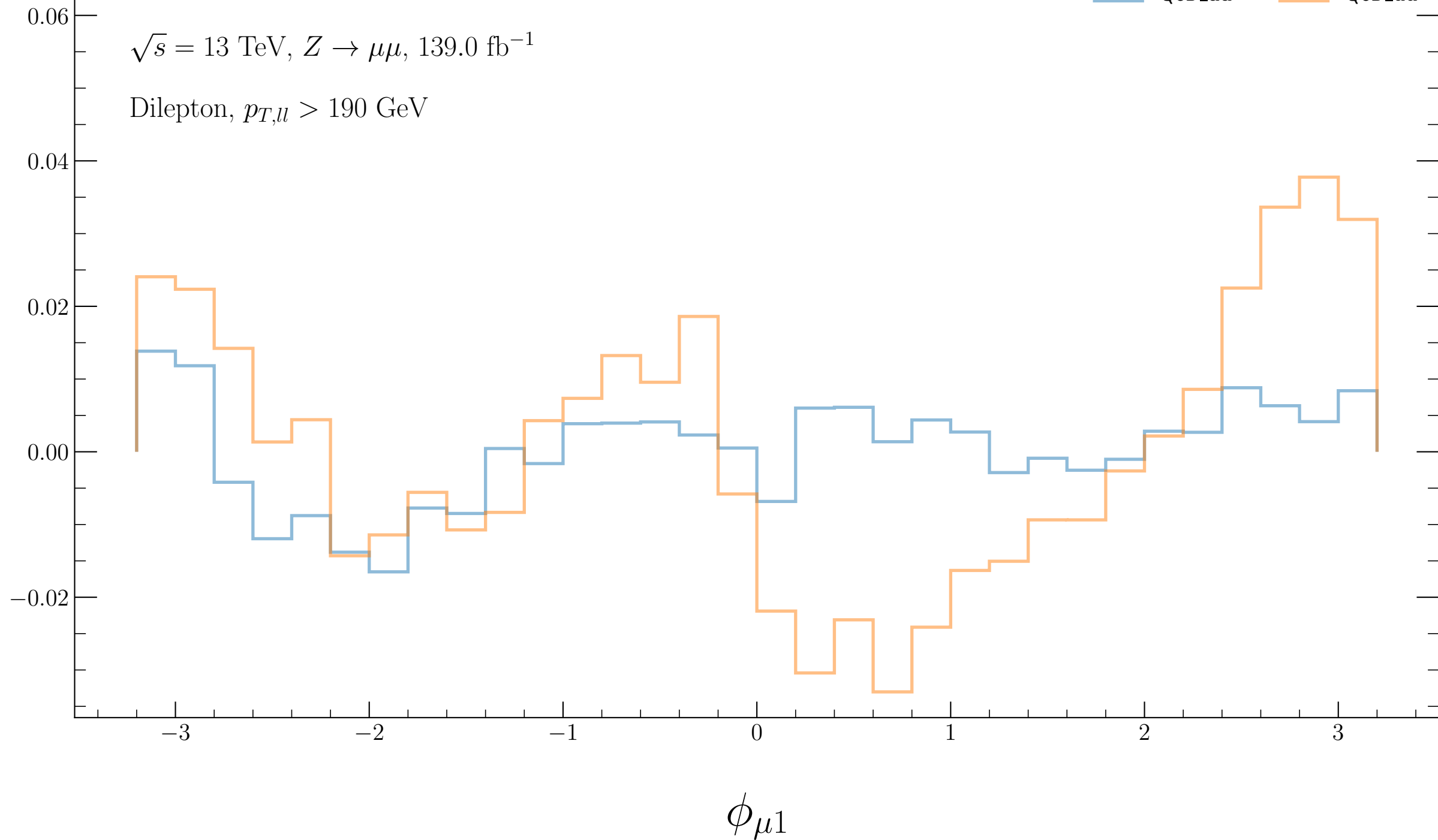
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