

Relative Systematic Effect (MultiFold)

ATLAS

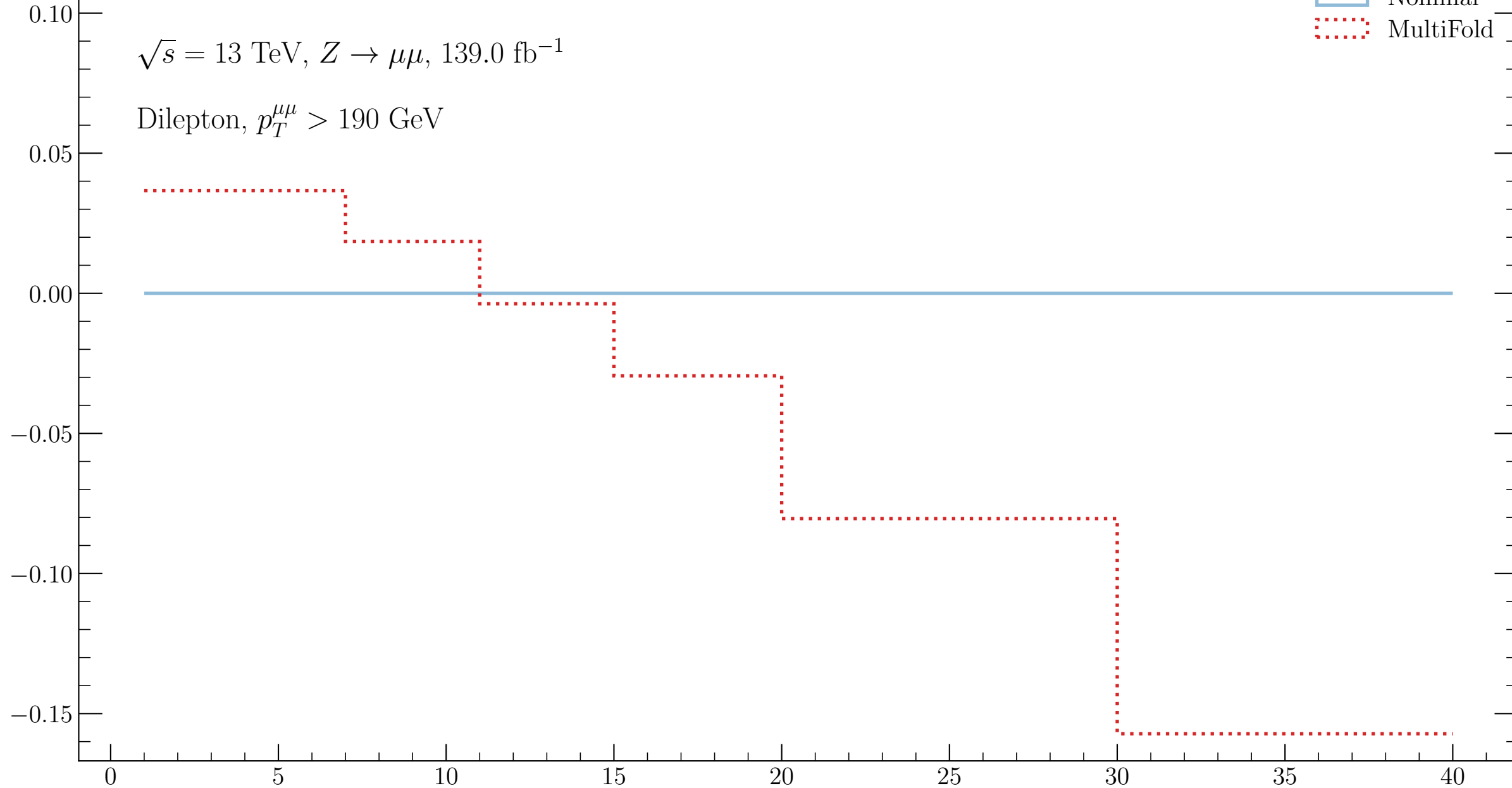
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Up

Nominal
MultiFold



Leading track jet n_{ch}

Relative Systematic Effect (MultiFold)

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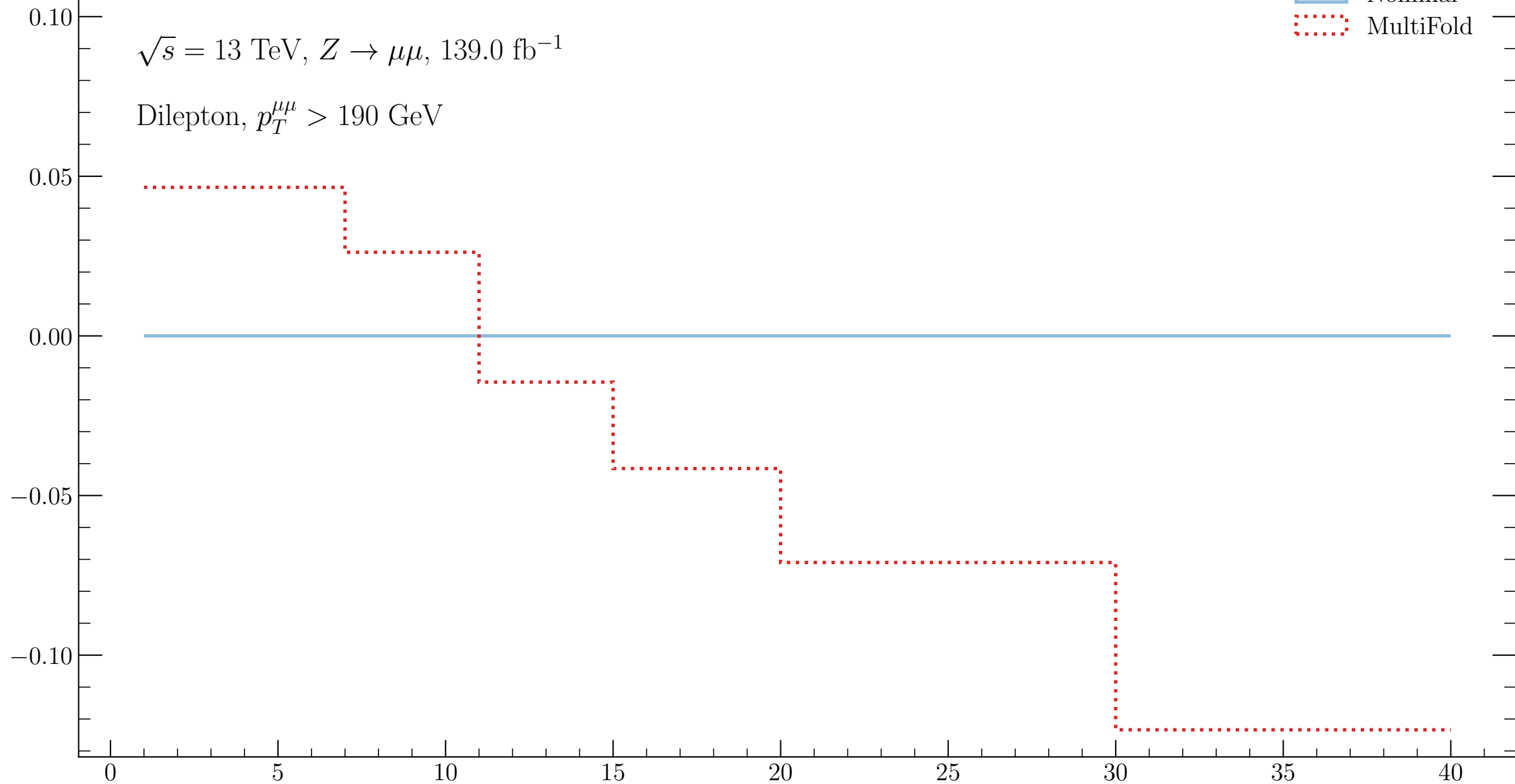
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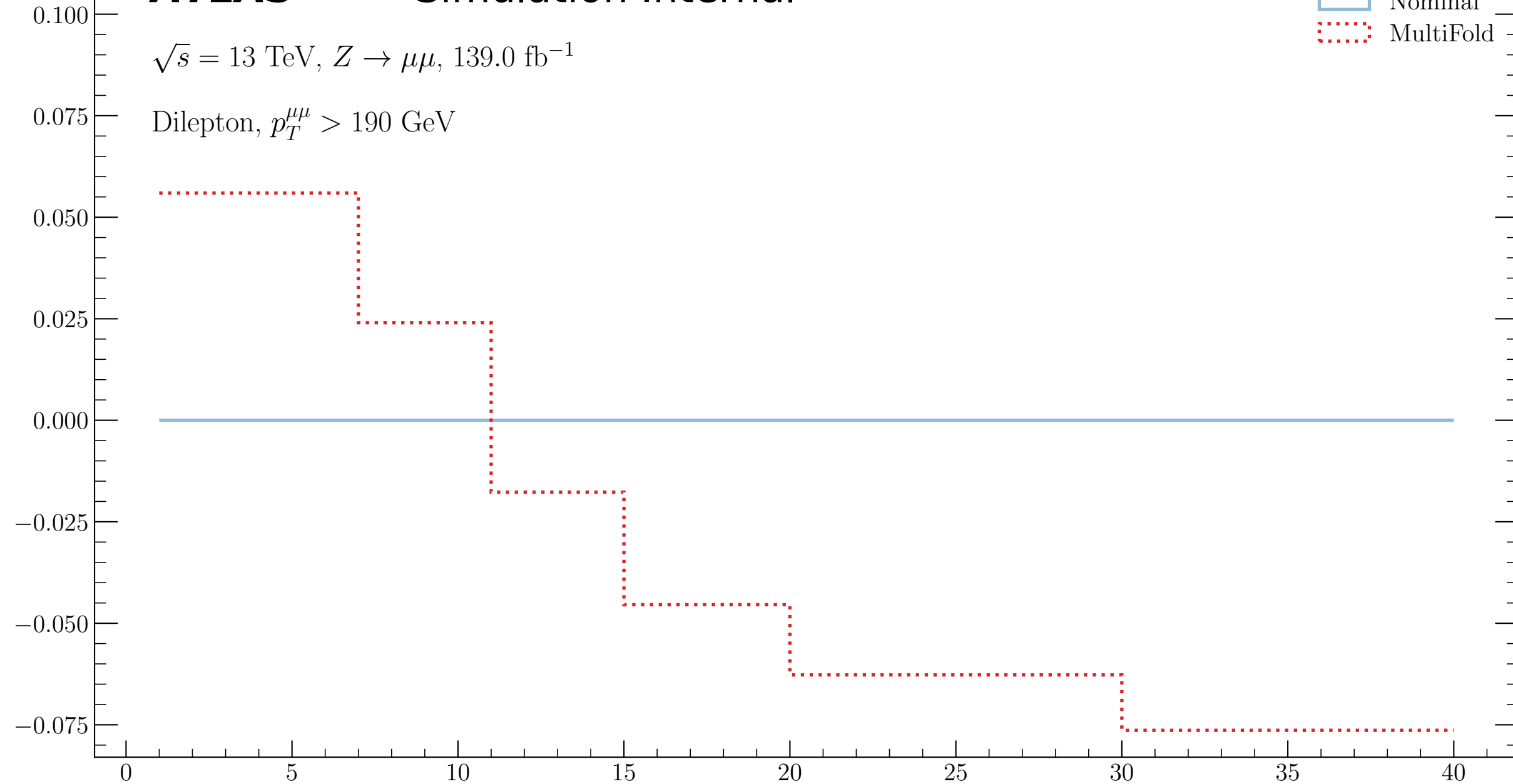
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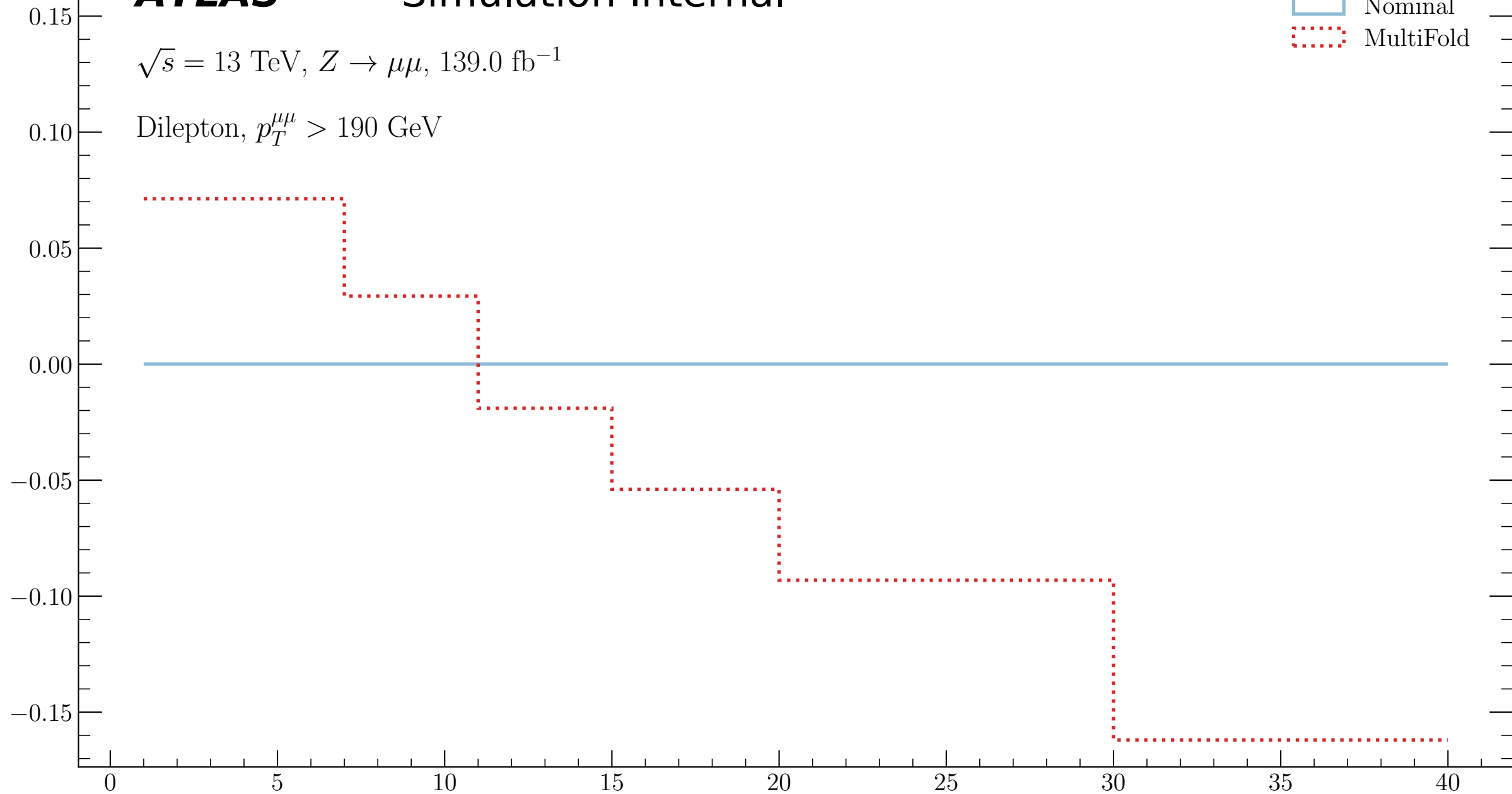
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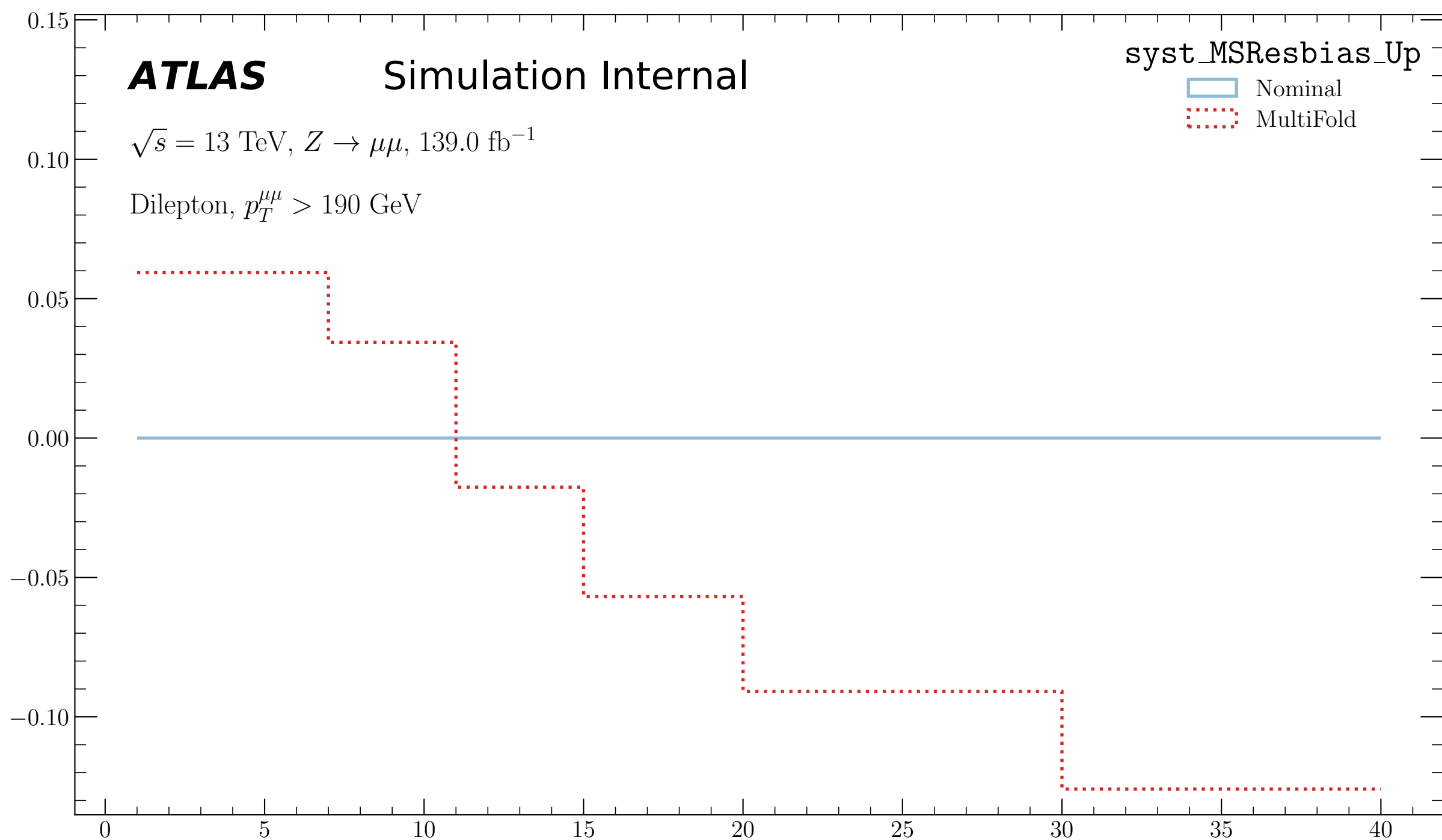
Simulation Internal

syst_MSResbias_Up

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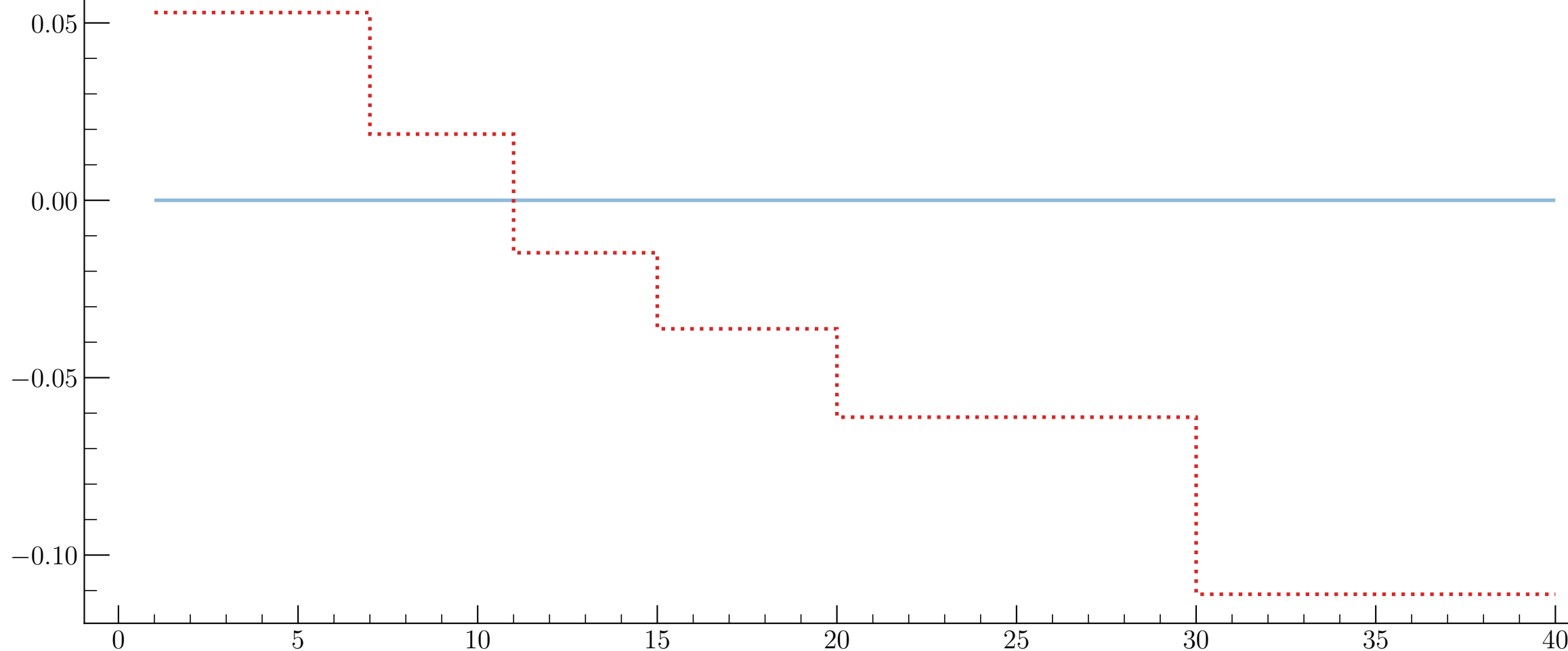
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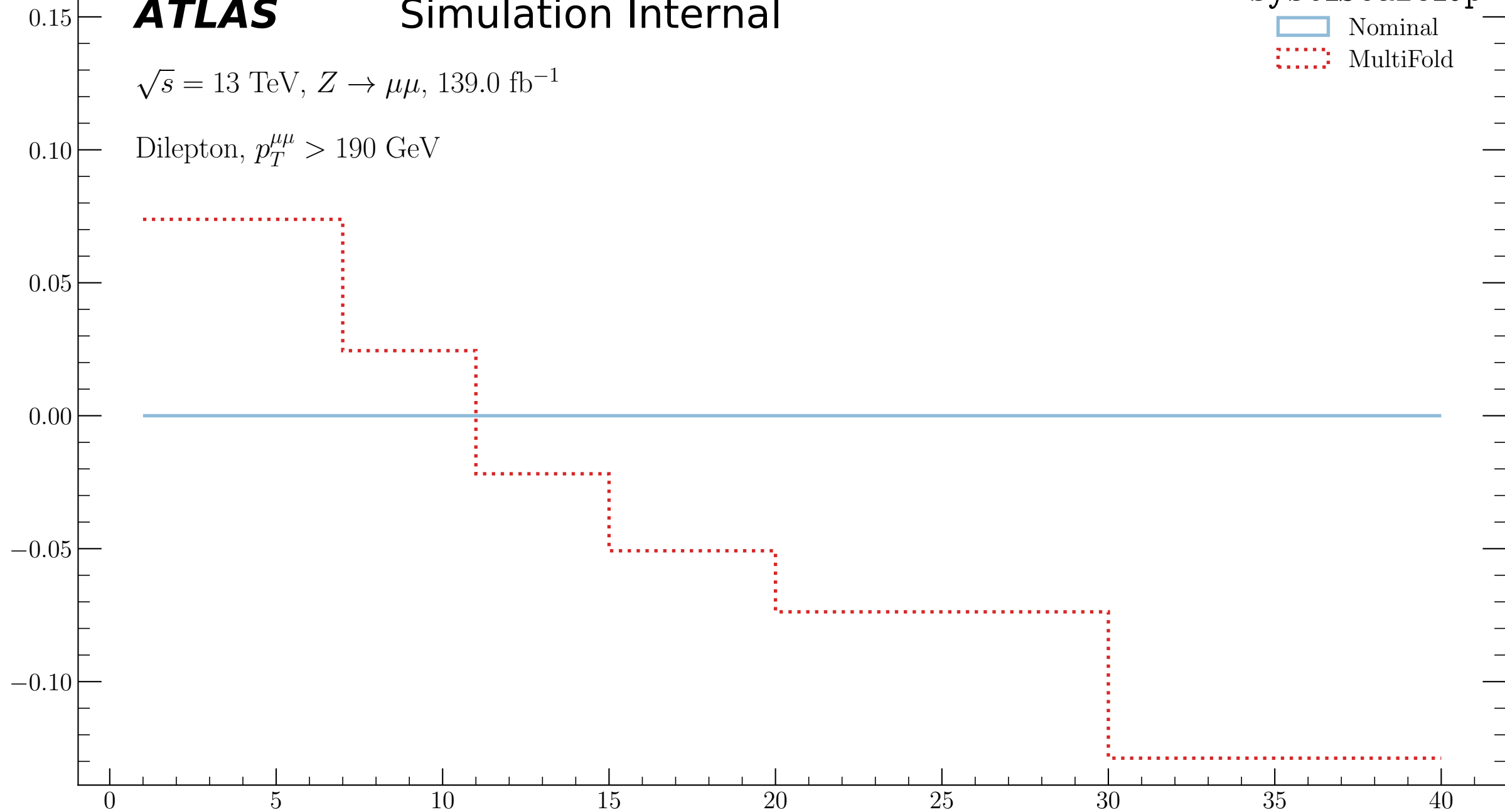
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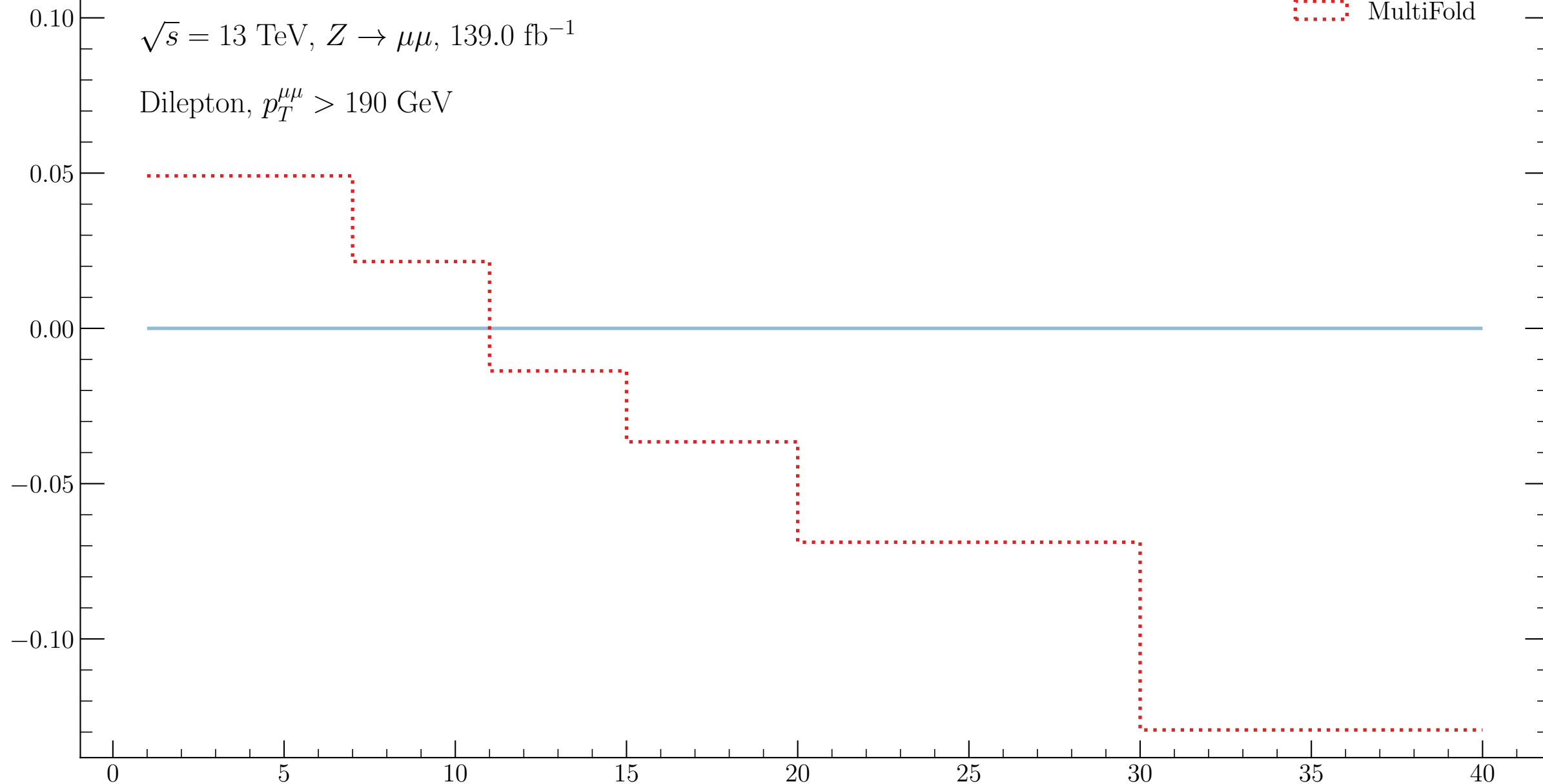


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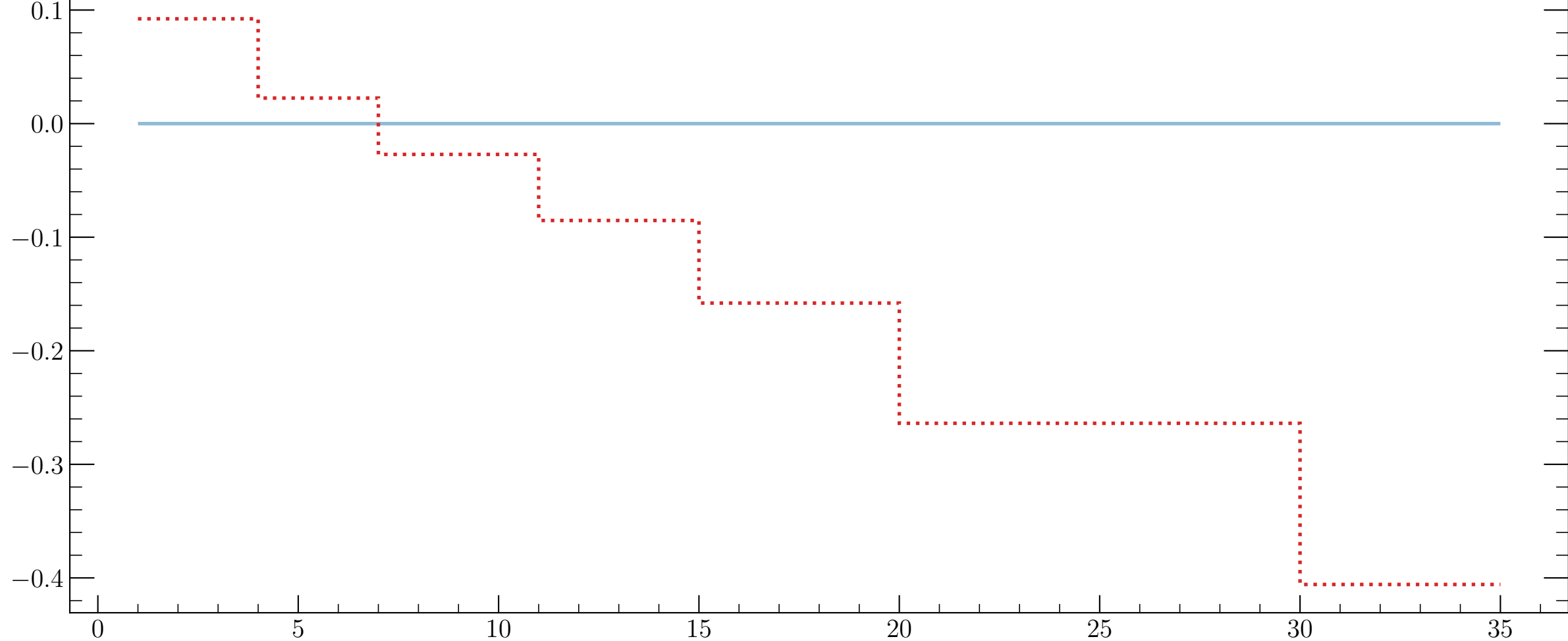
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Subleading track jet n_{ch}

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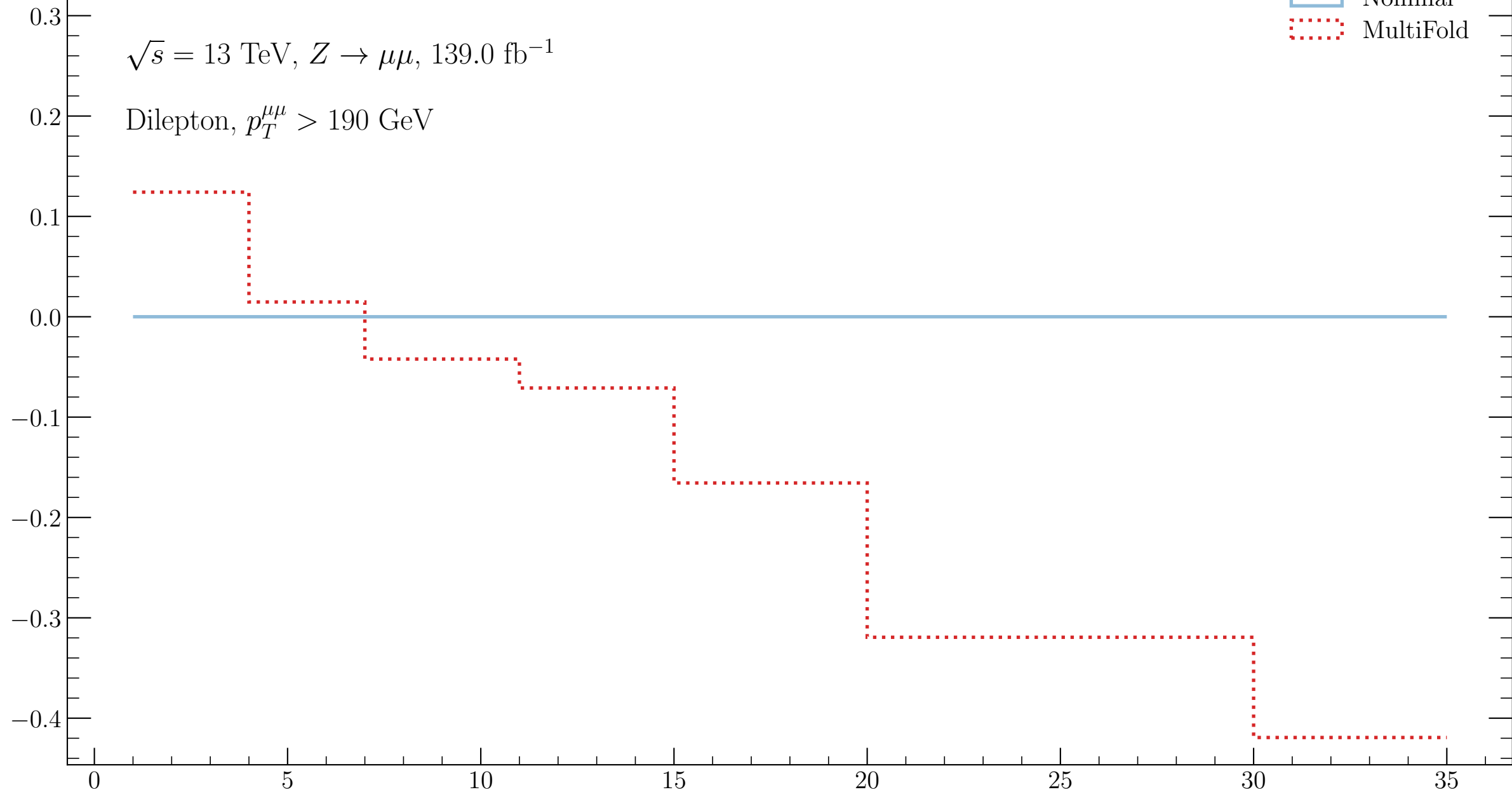
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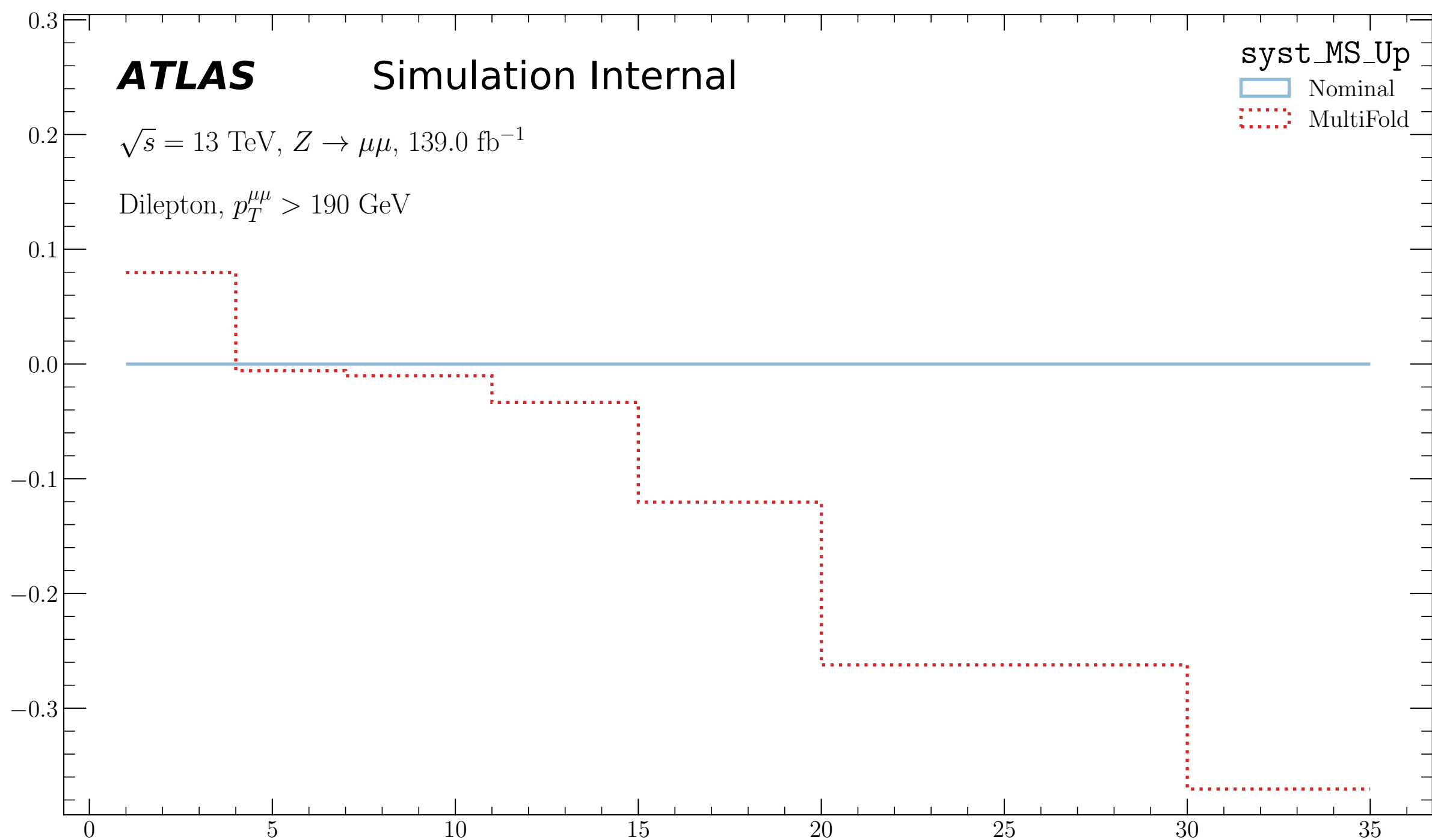
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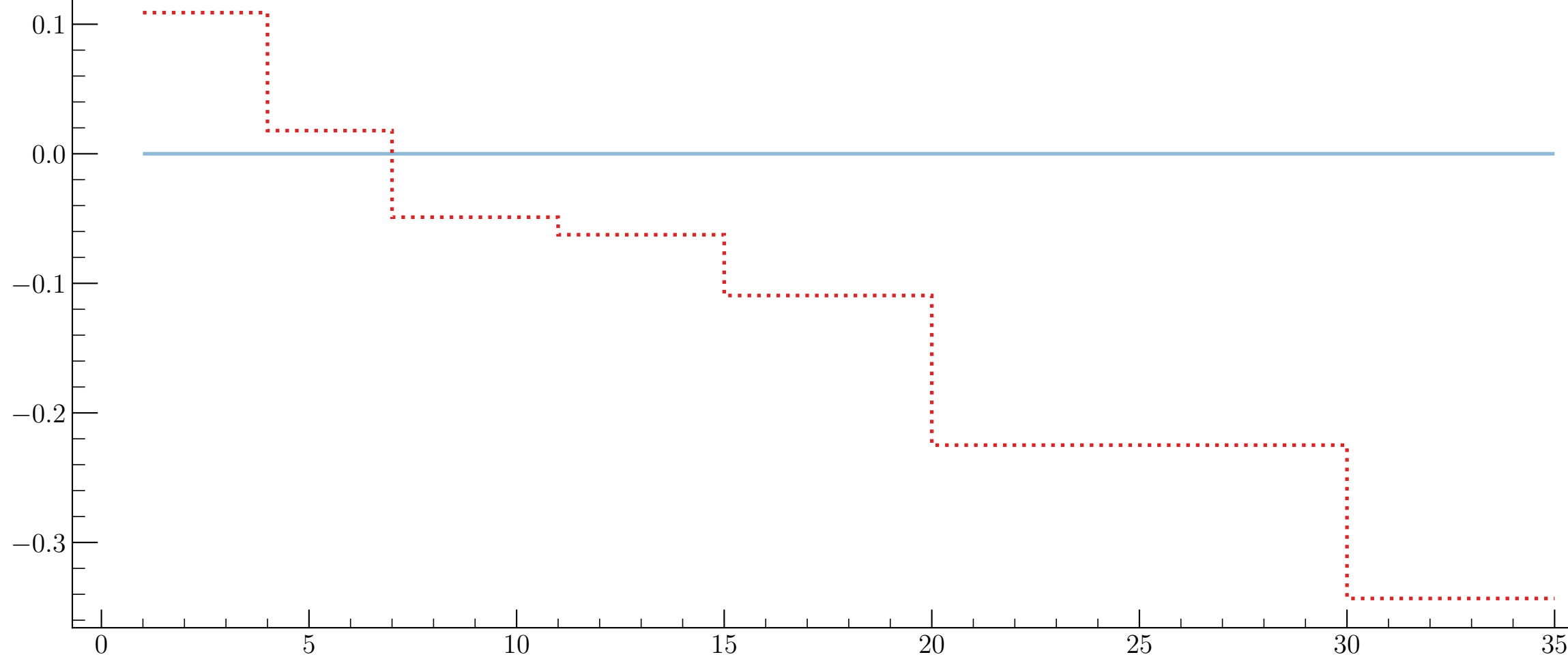
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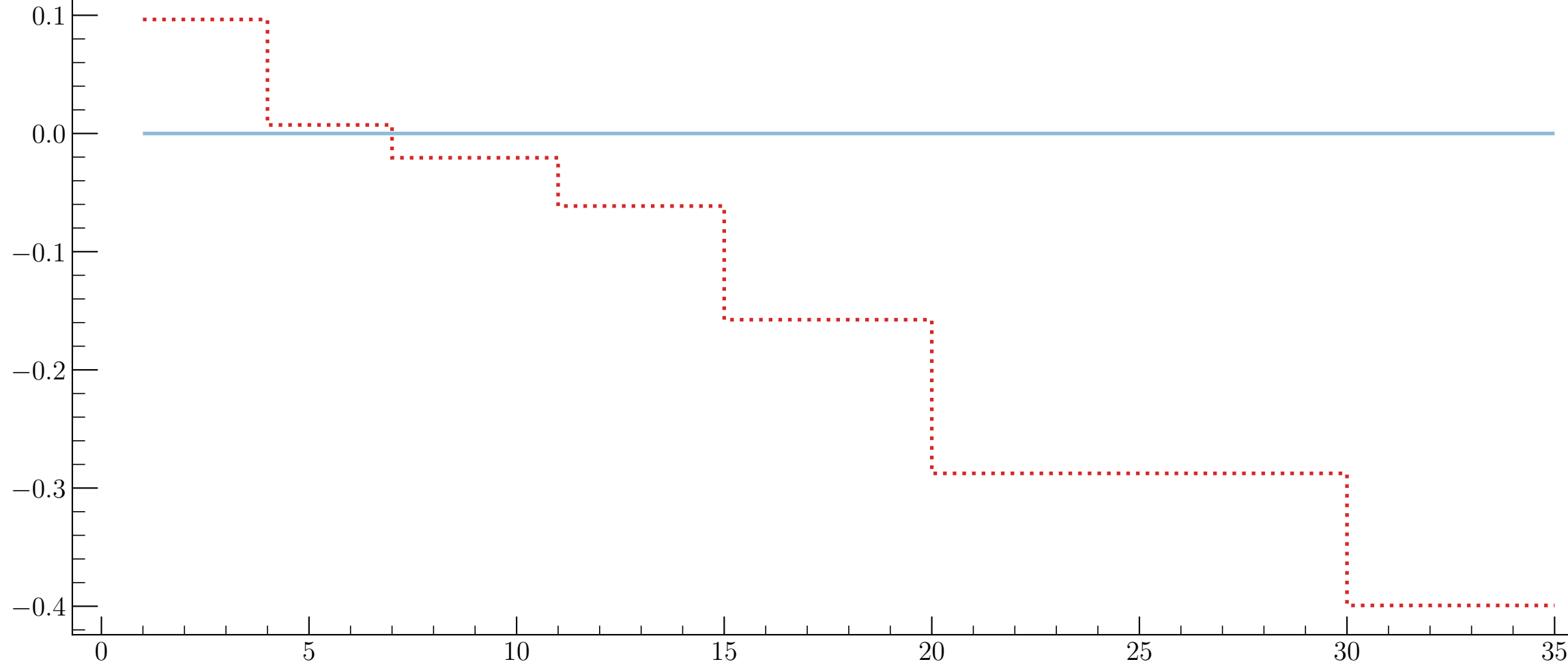
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syst_MSResbias_Up

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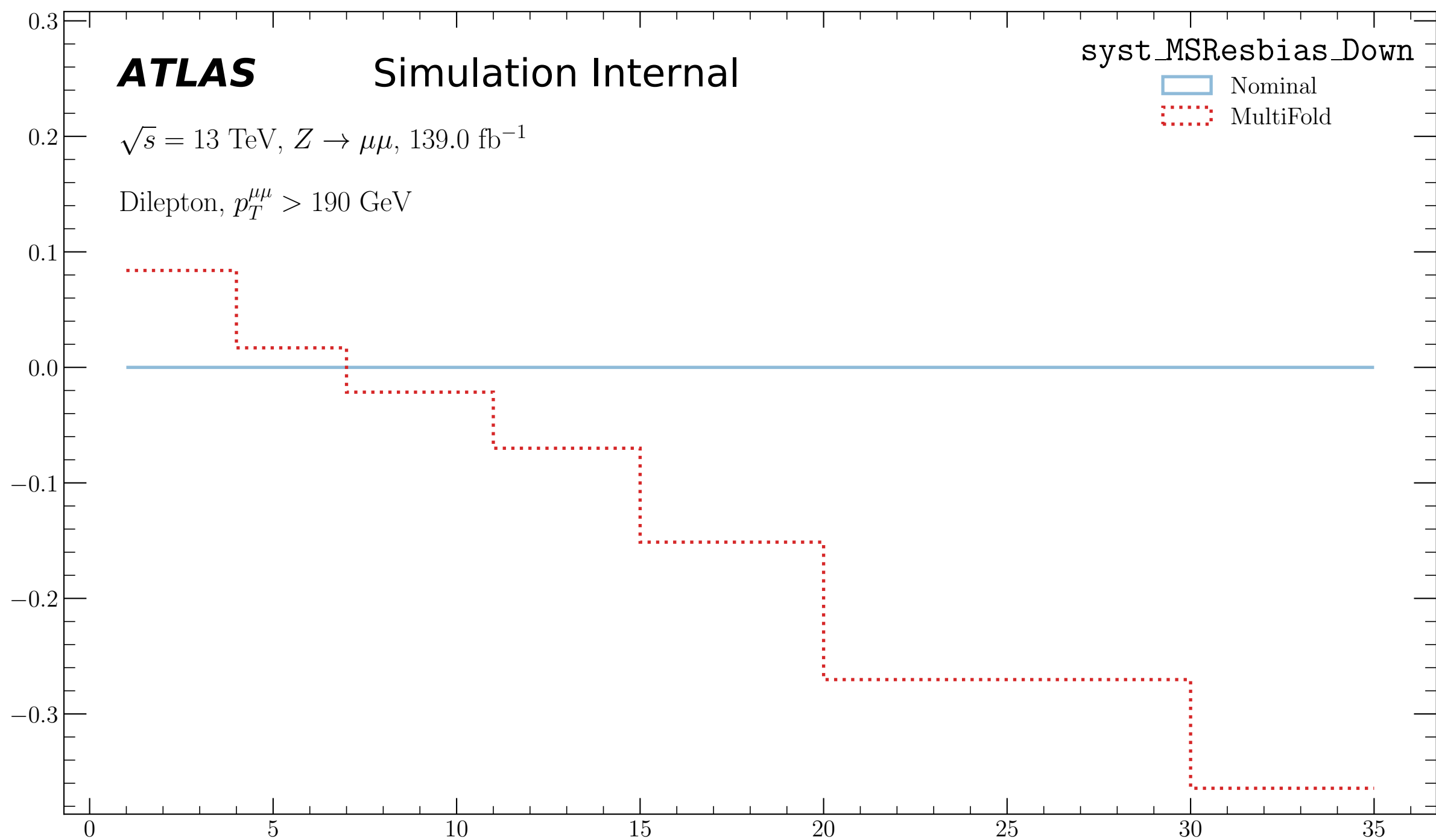
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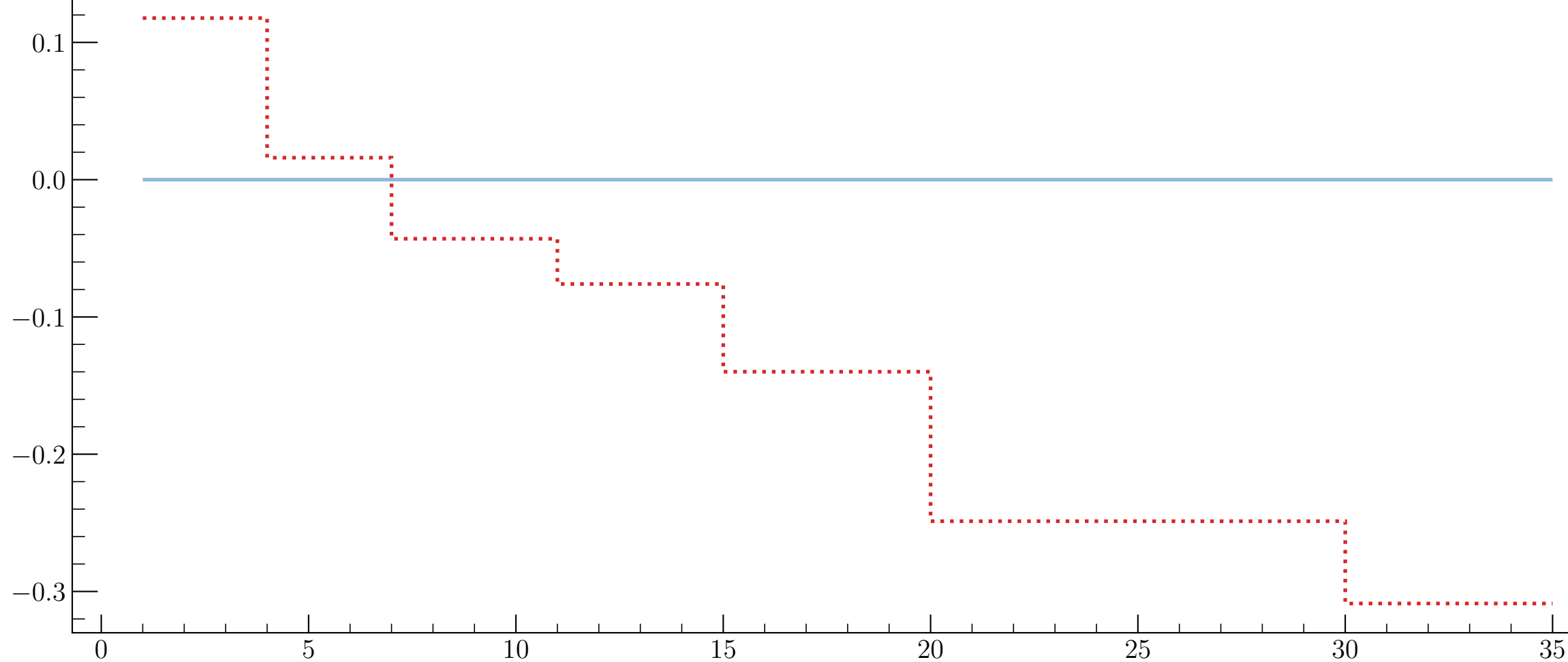
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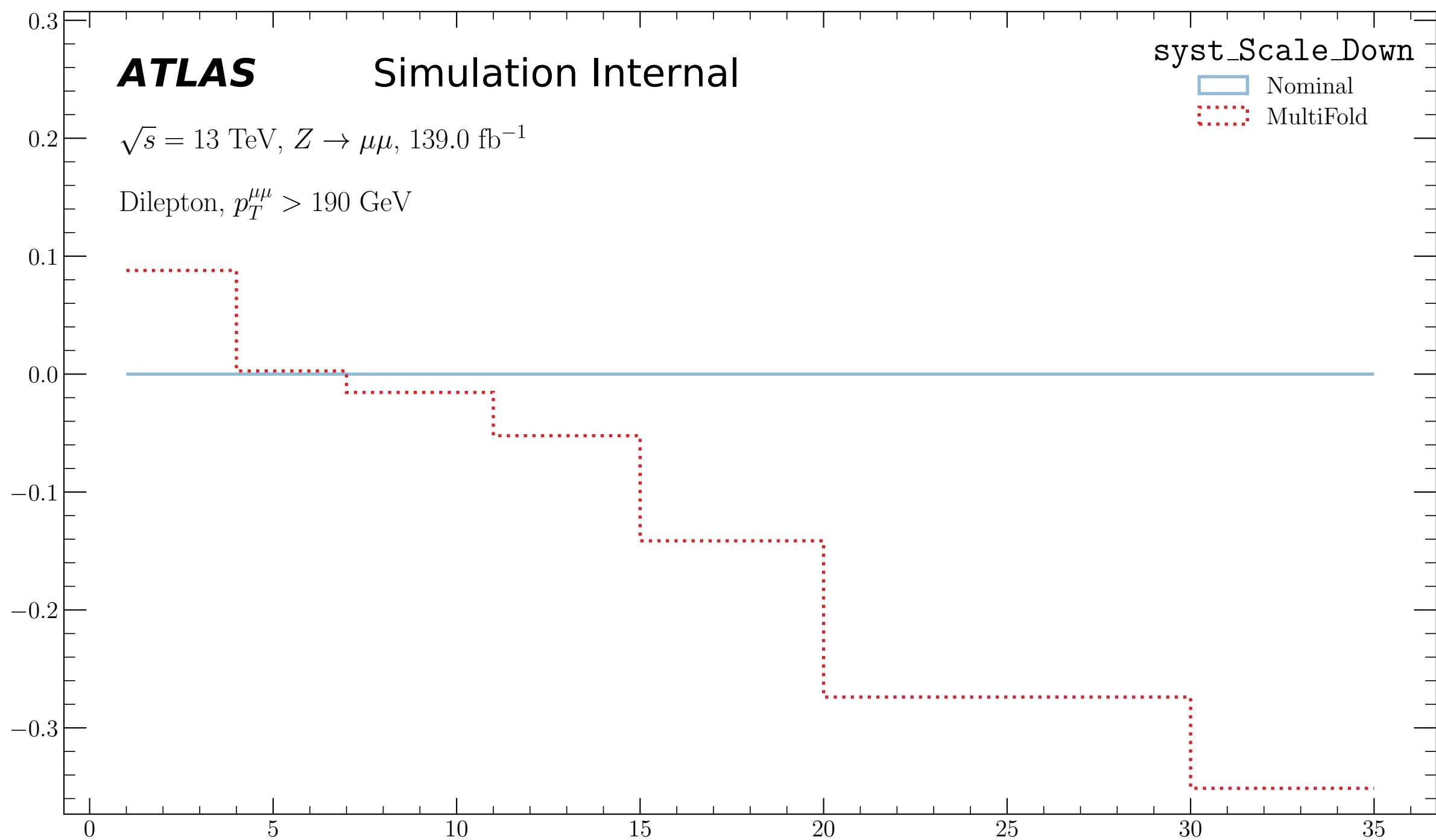
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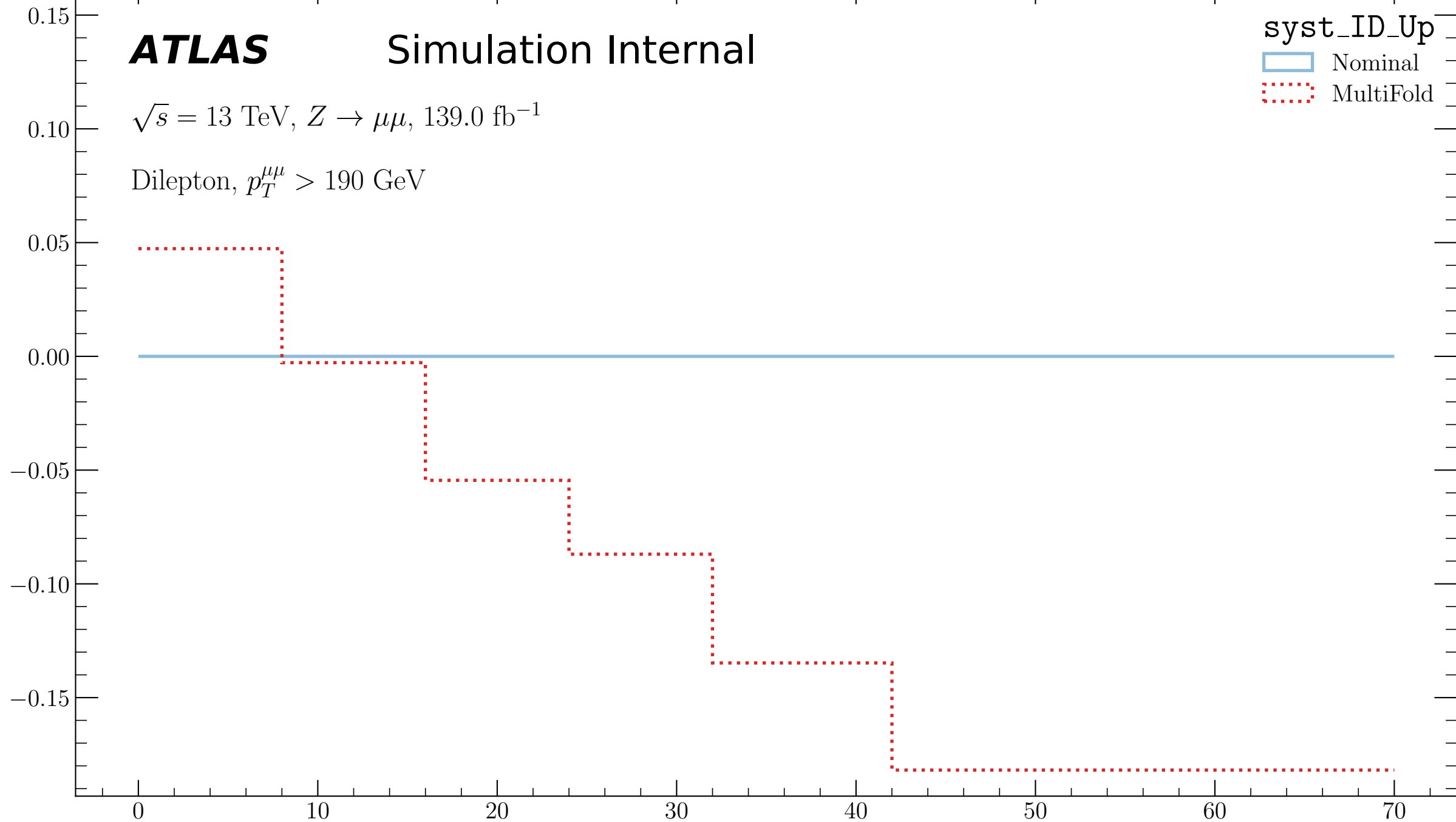
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Leading track jet m [GeV]

Relative Systematic Effect (MultiFold)

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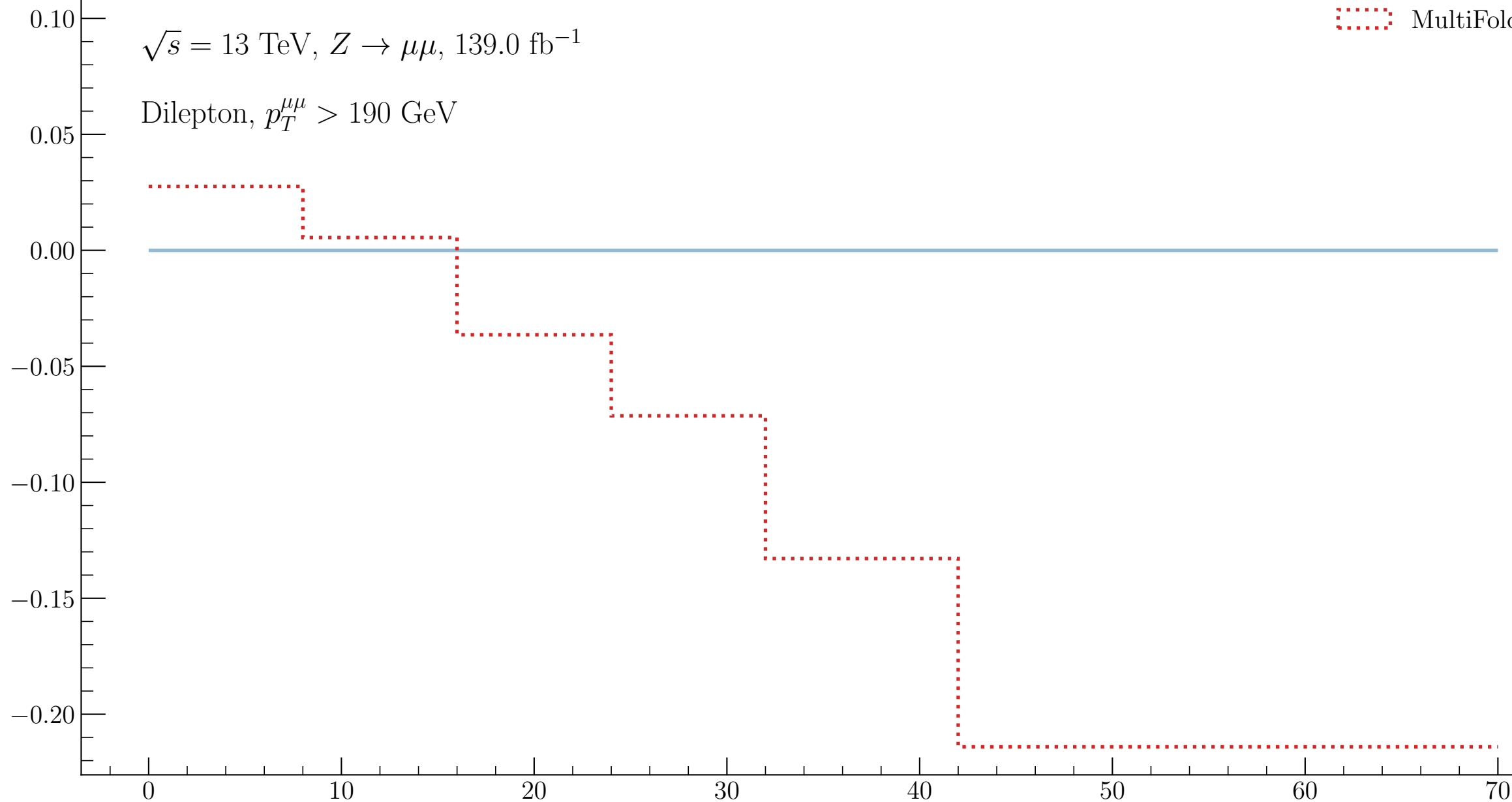
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Leading track jet m [GeV]

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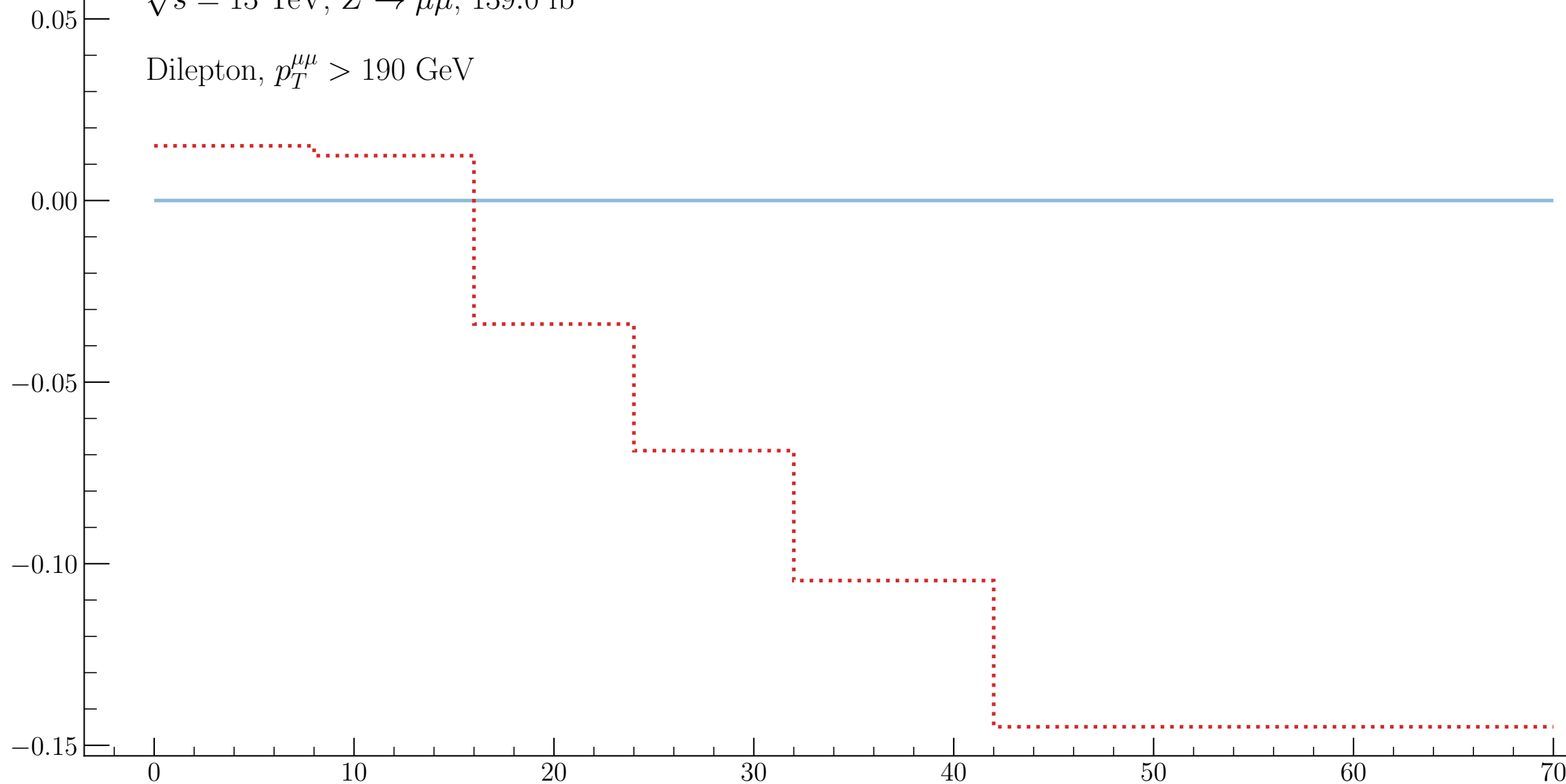
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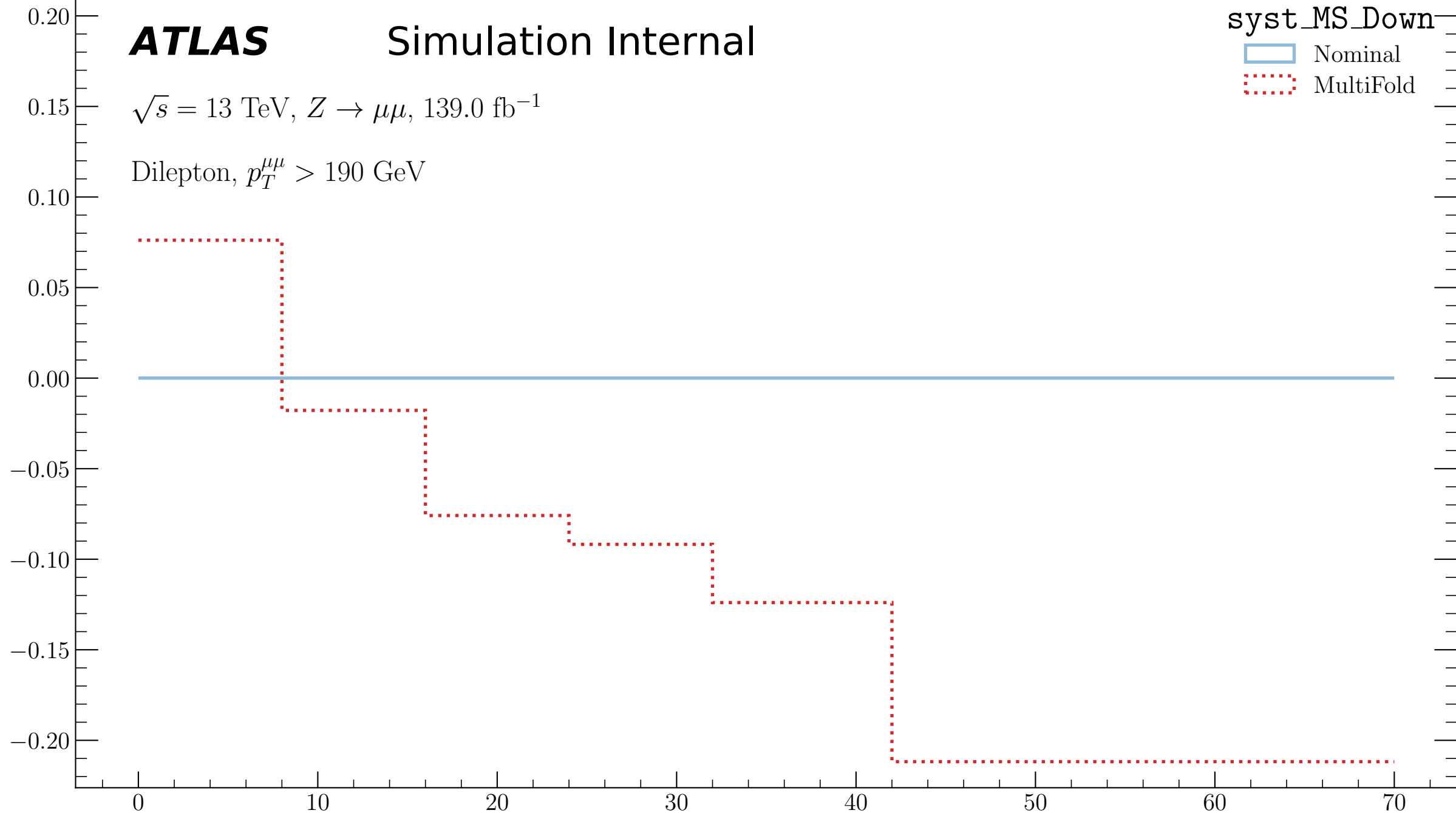
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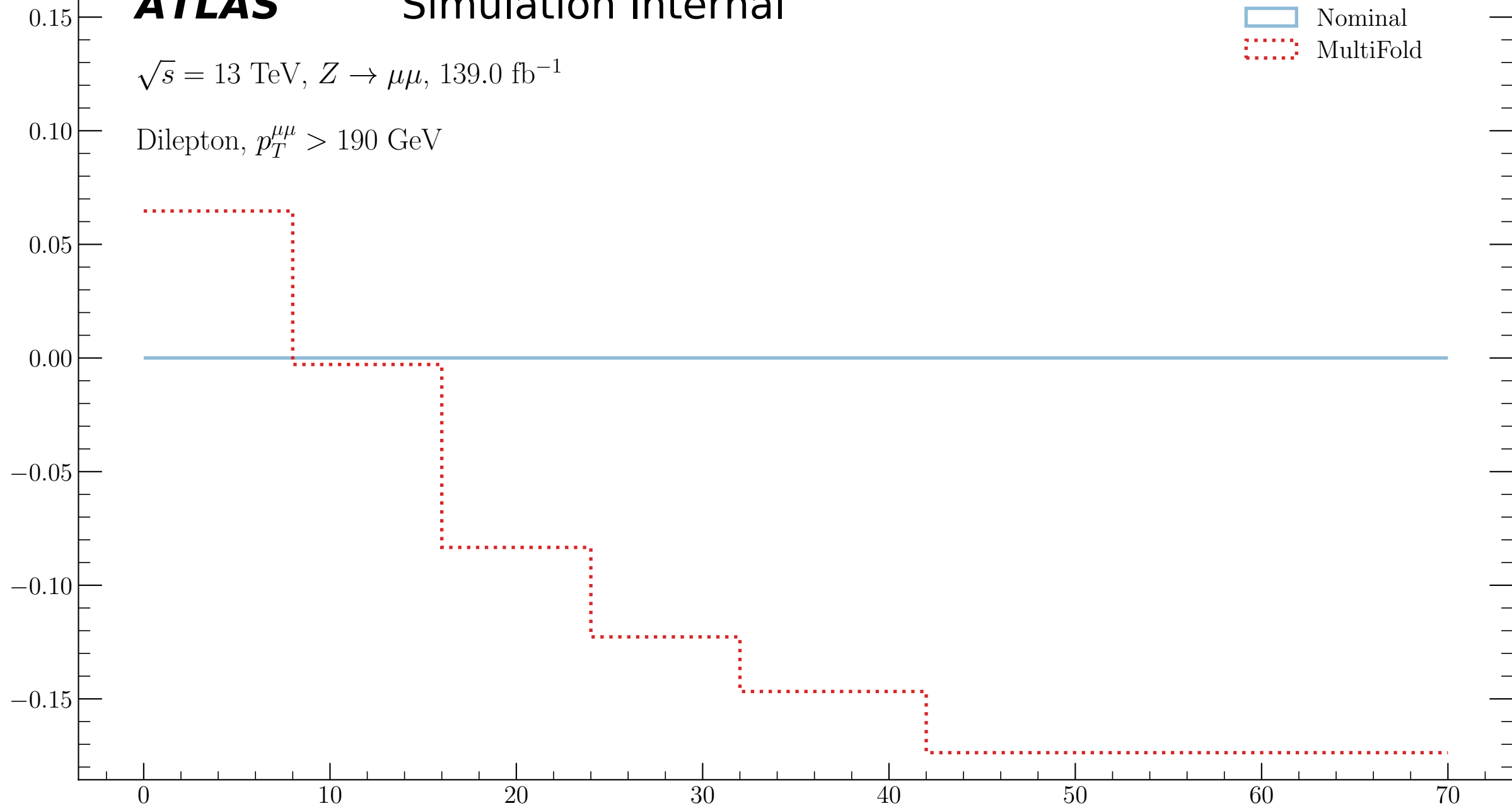
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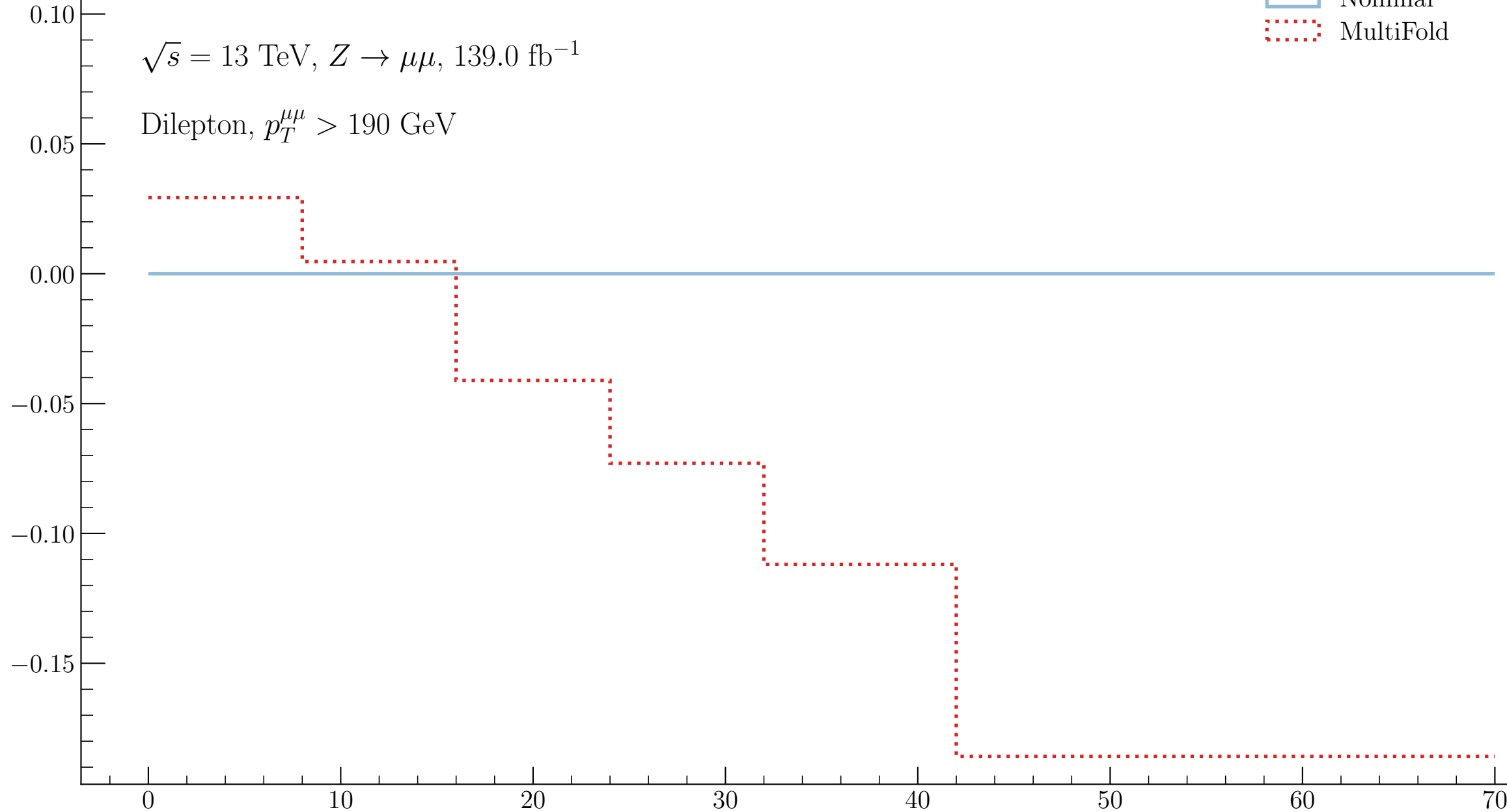
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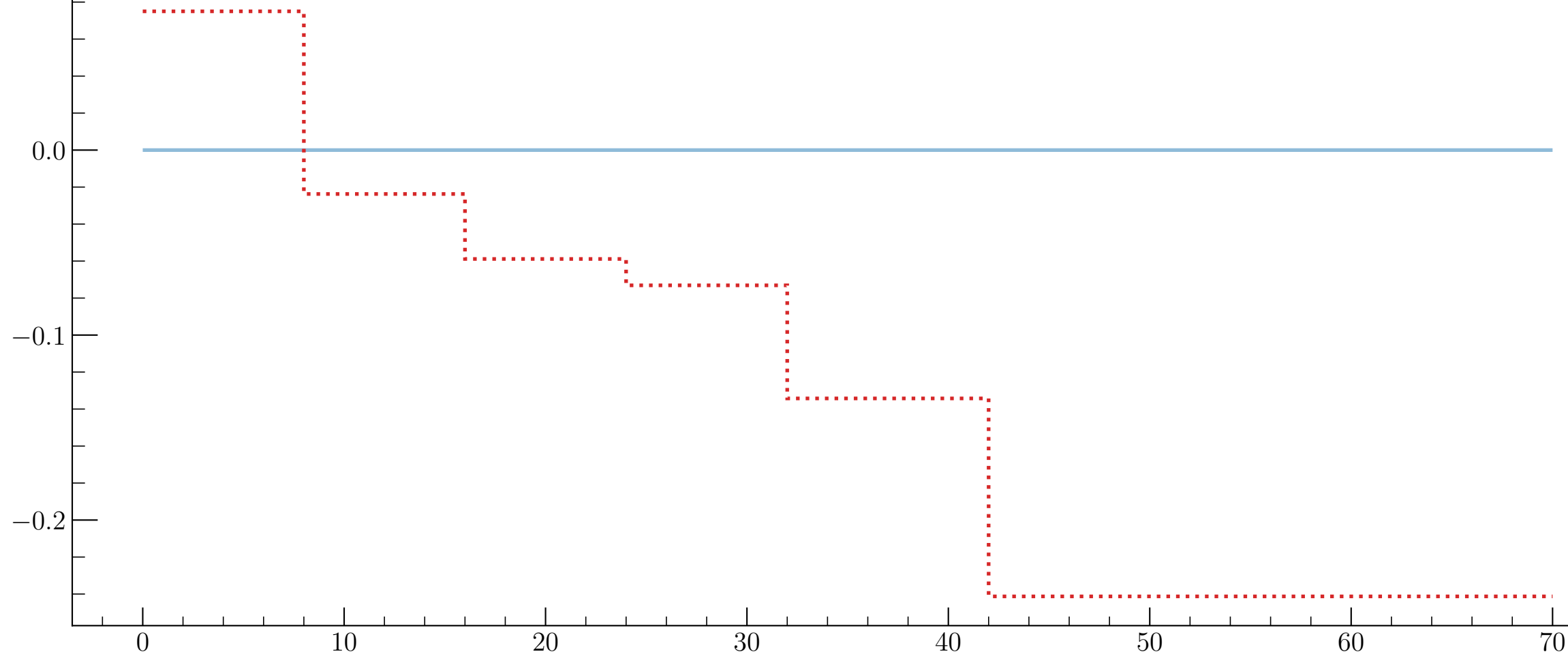
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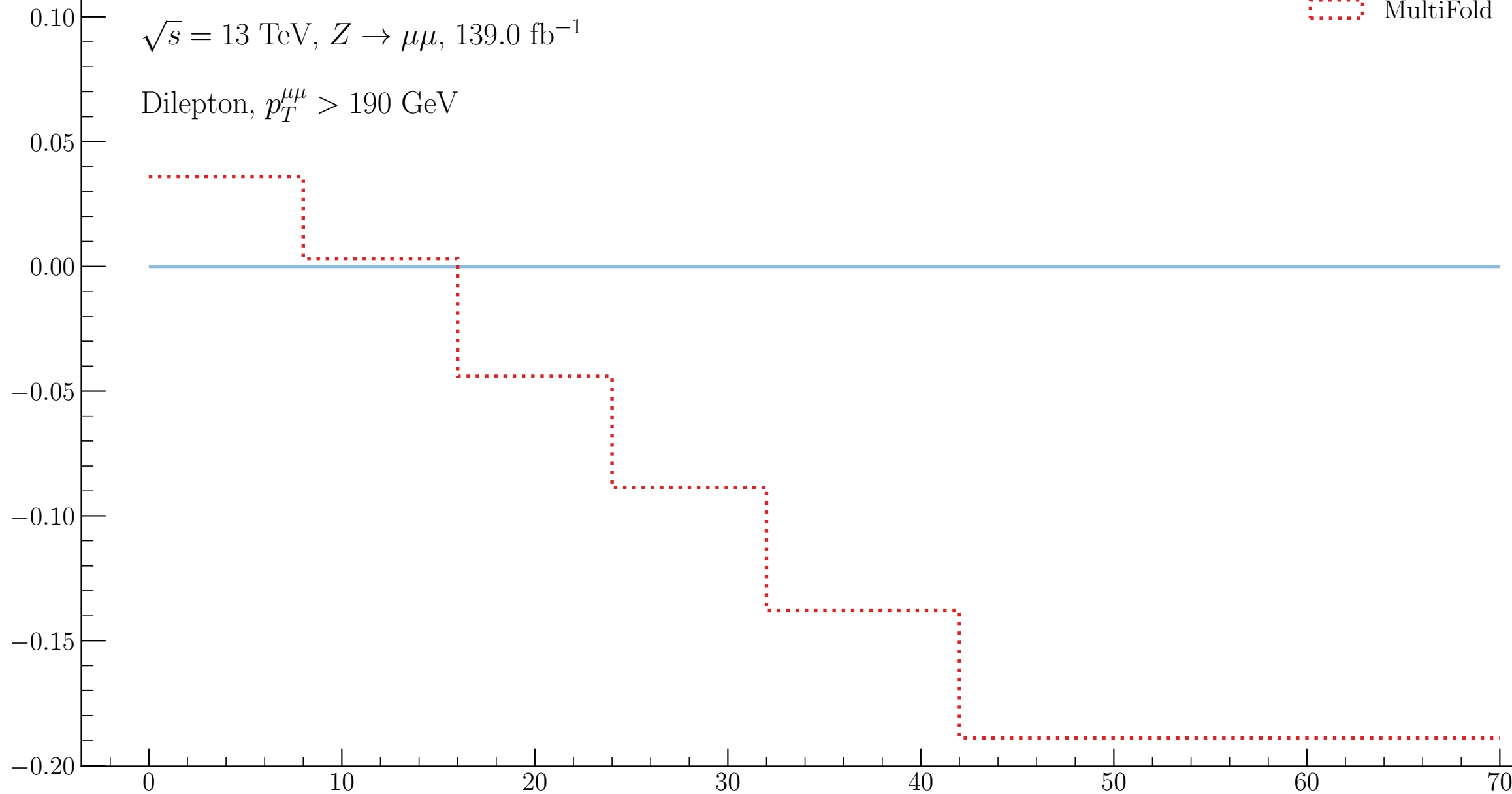
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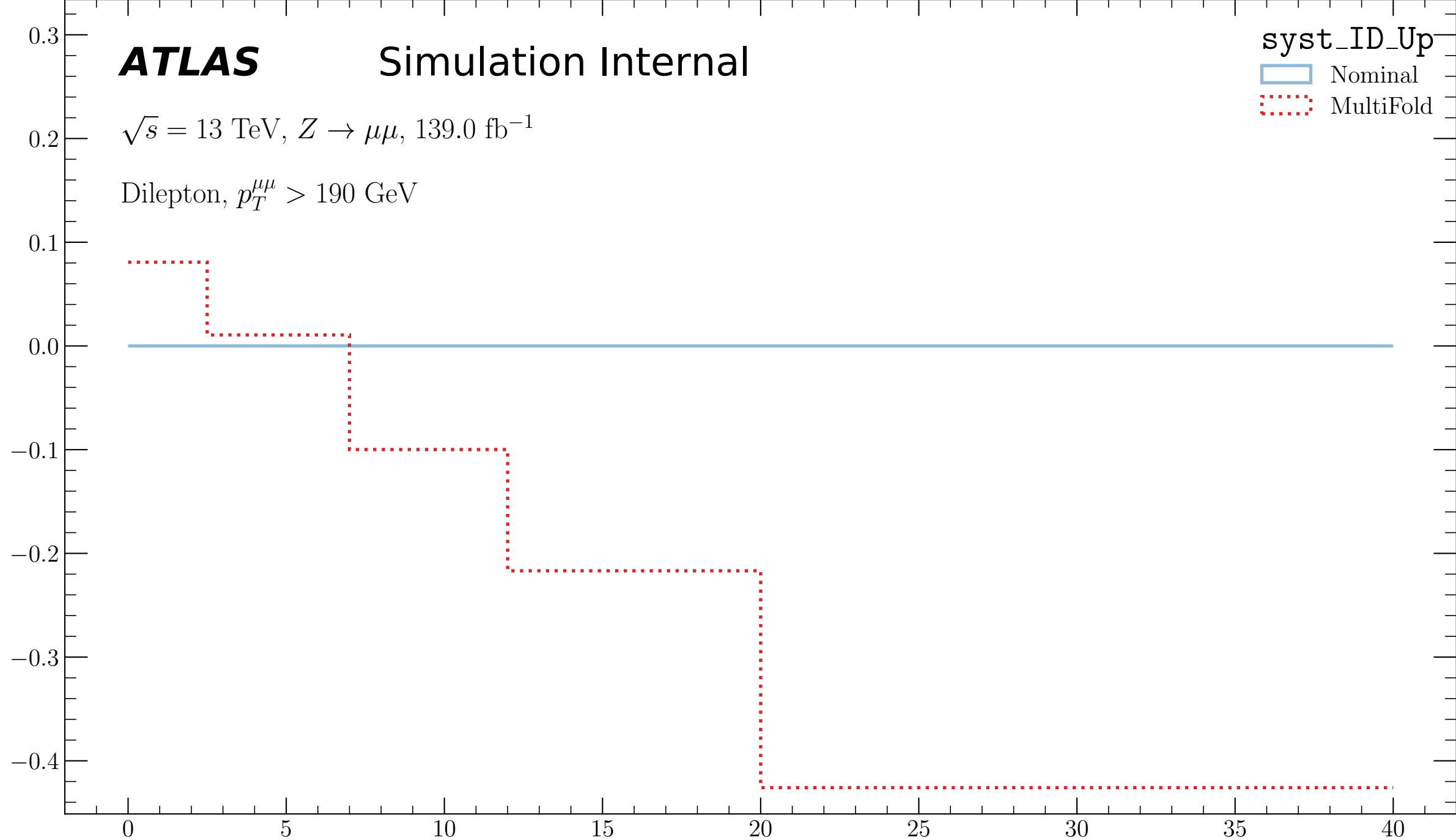
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syst_ID_Up

Nominal

MultiFold



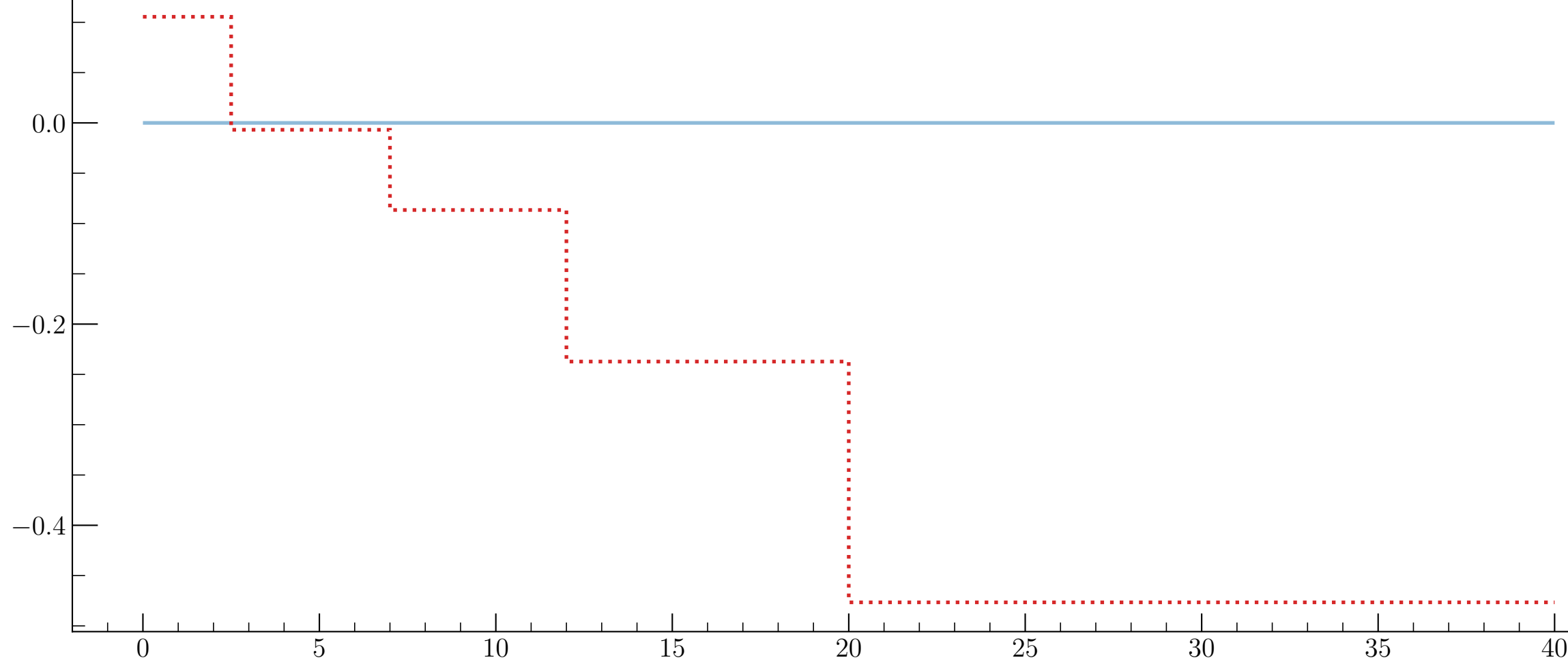
Subleading track jet m [GeV]

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syst_ID_Down

Nominal
MultiFoldSubleading track jet m [GeV]

Relative Systematic Effect (MultiFold)

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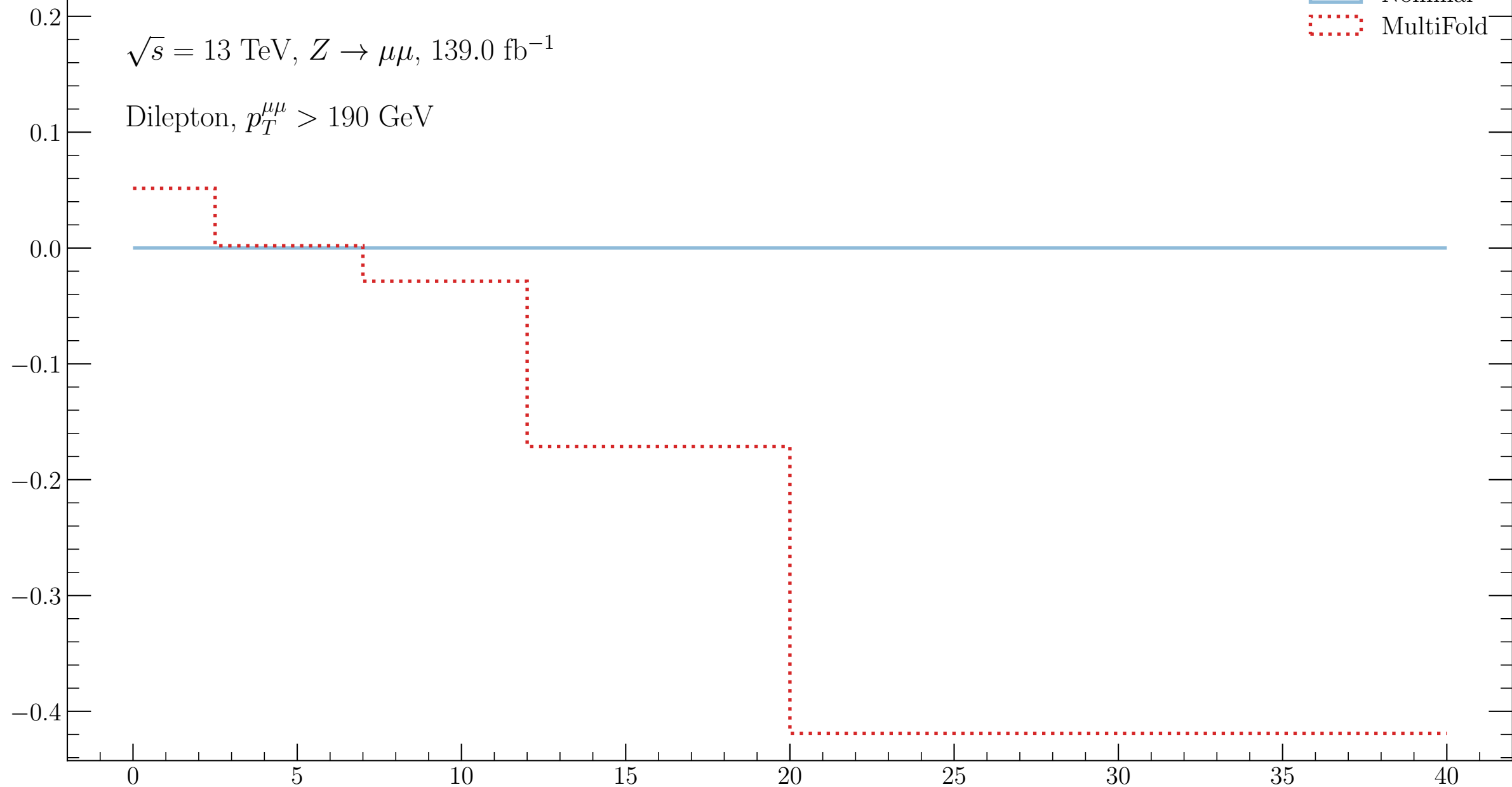
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Subleading track jet m [GeV]

Relative Systematic Effect (MultiFold)

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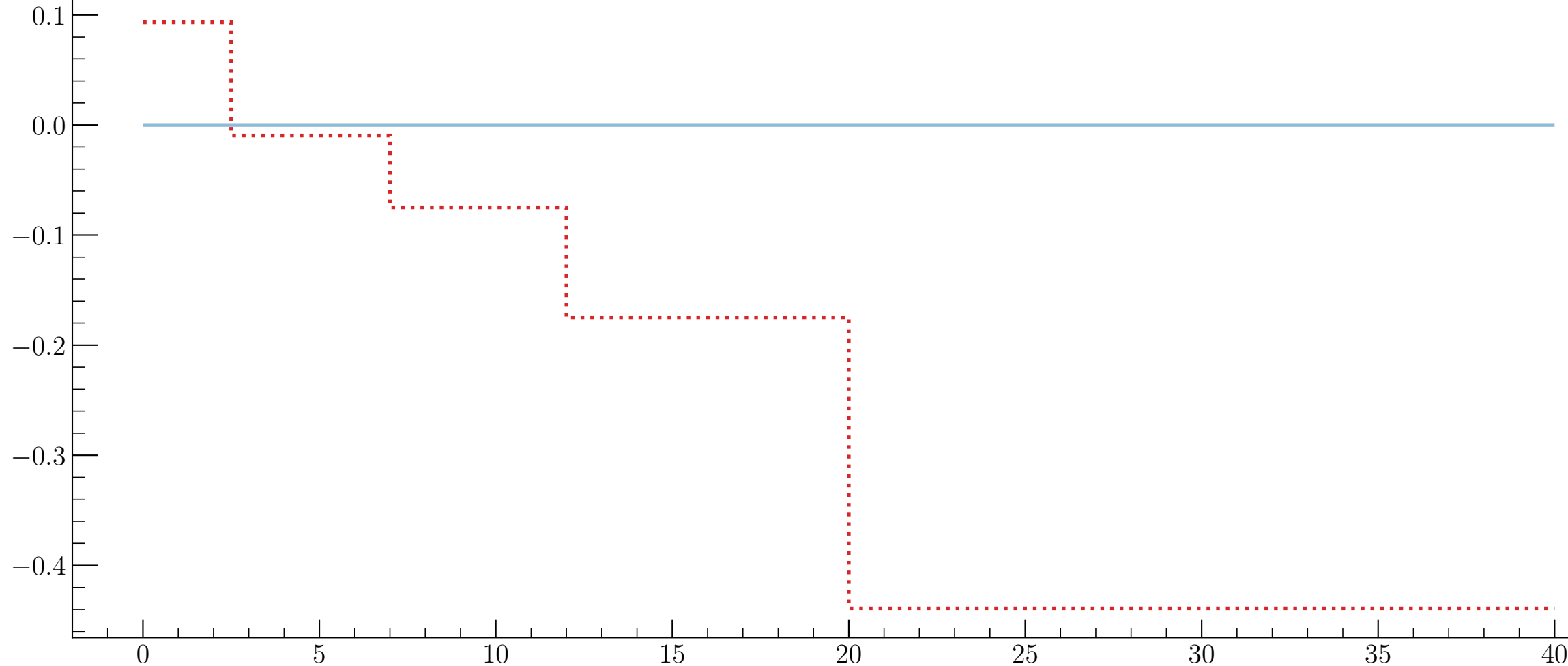
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Subleading track jet m [GeV]

Relative Systematic Effect (MultiFold)

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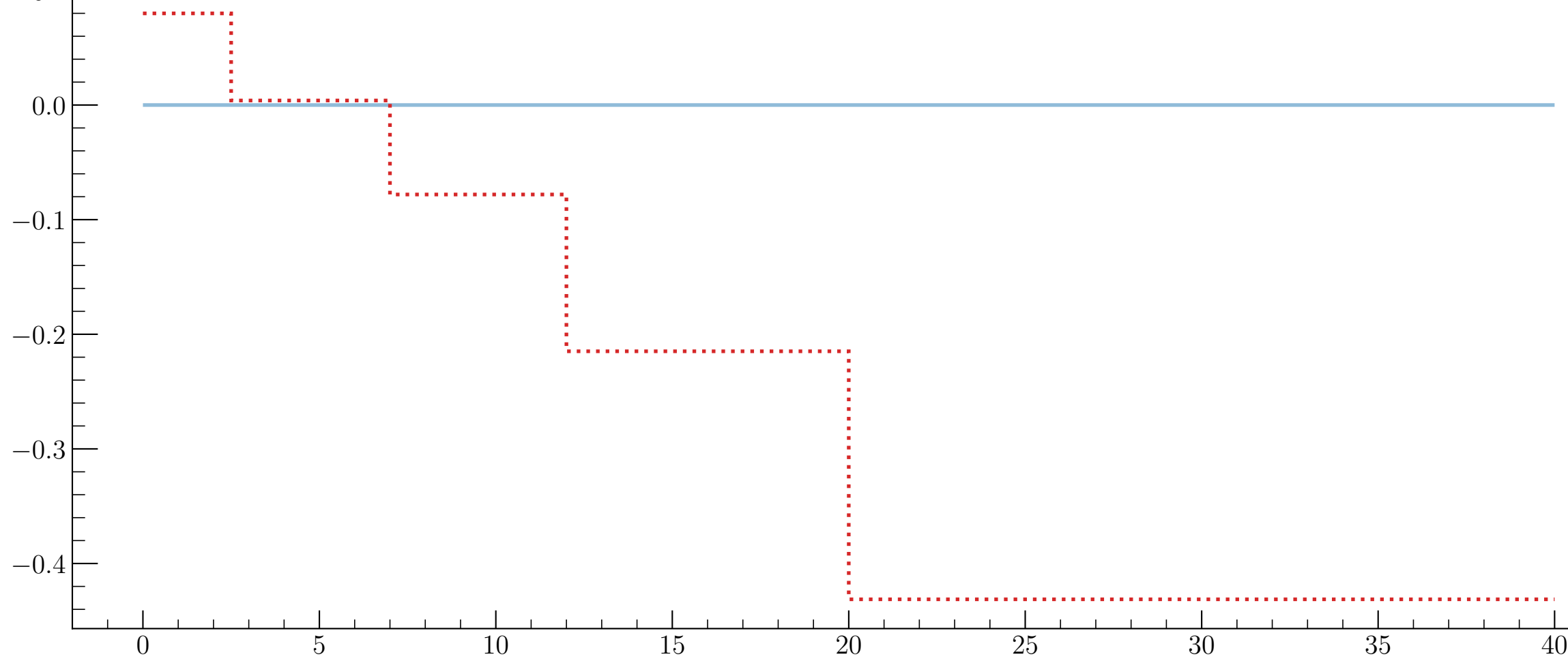
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syst_MSResbias_Up

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Subleading track jet m [GeV]

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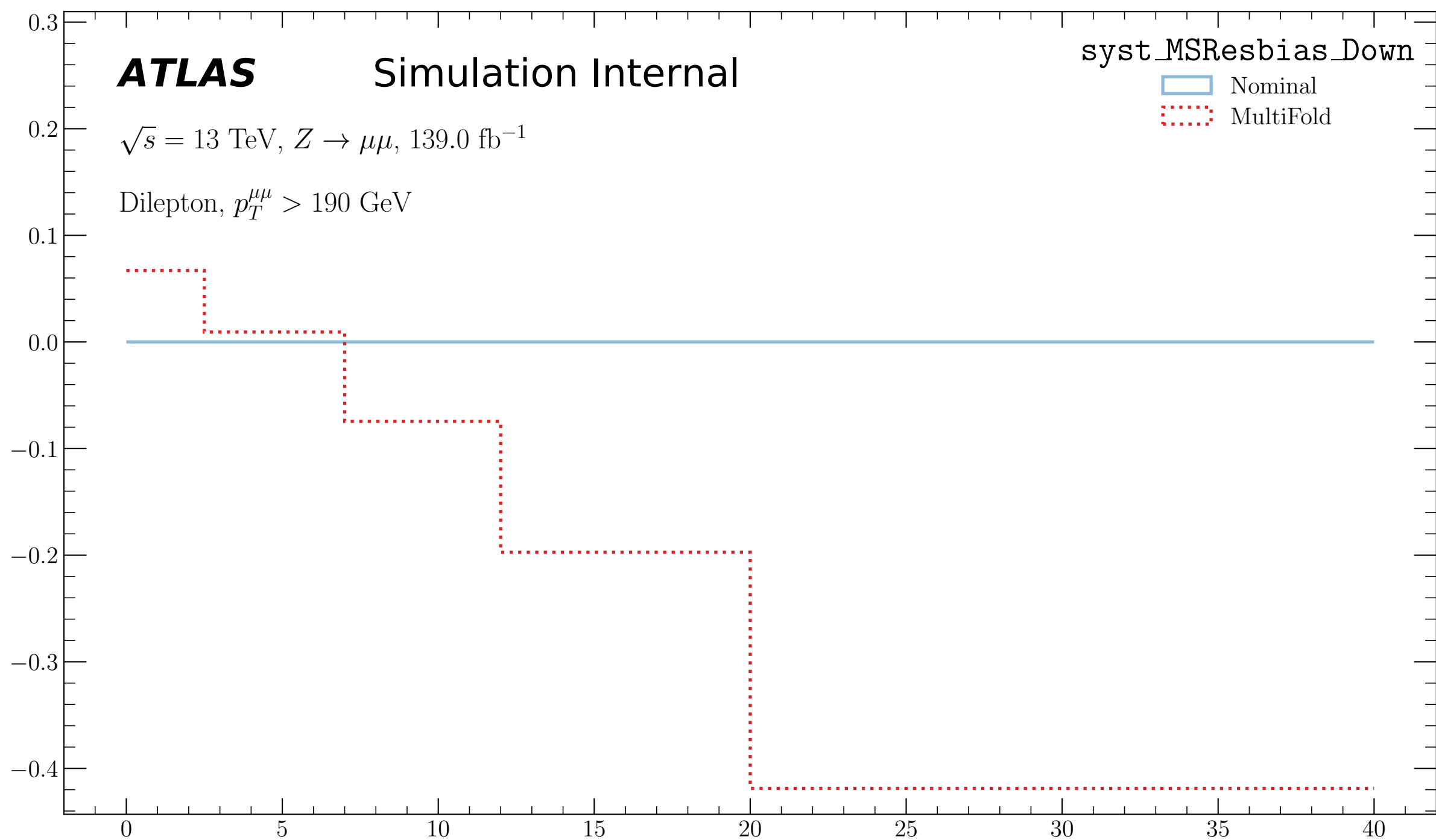
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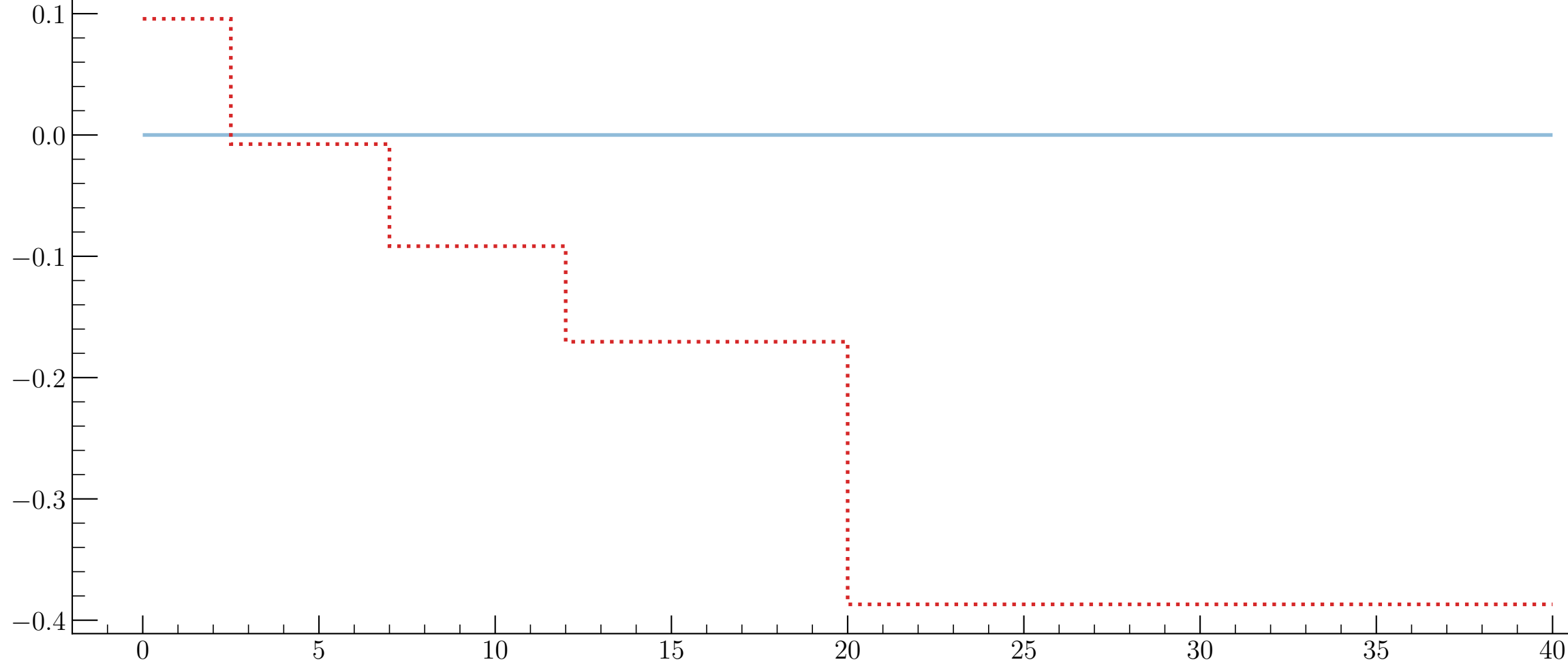
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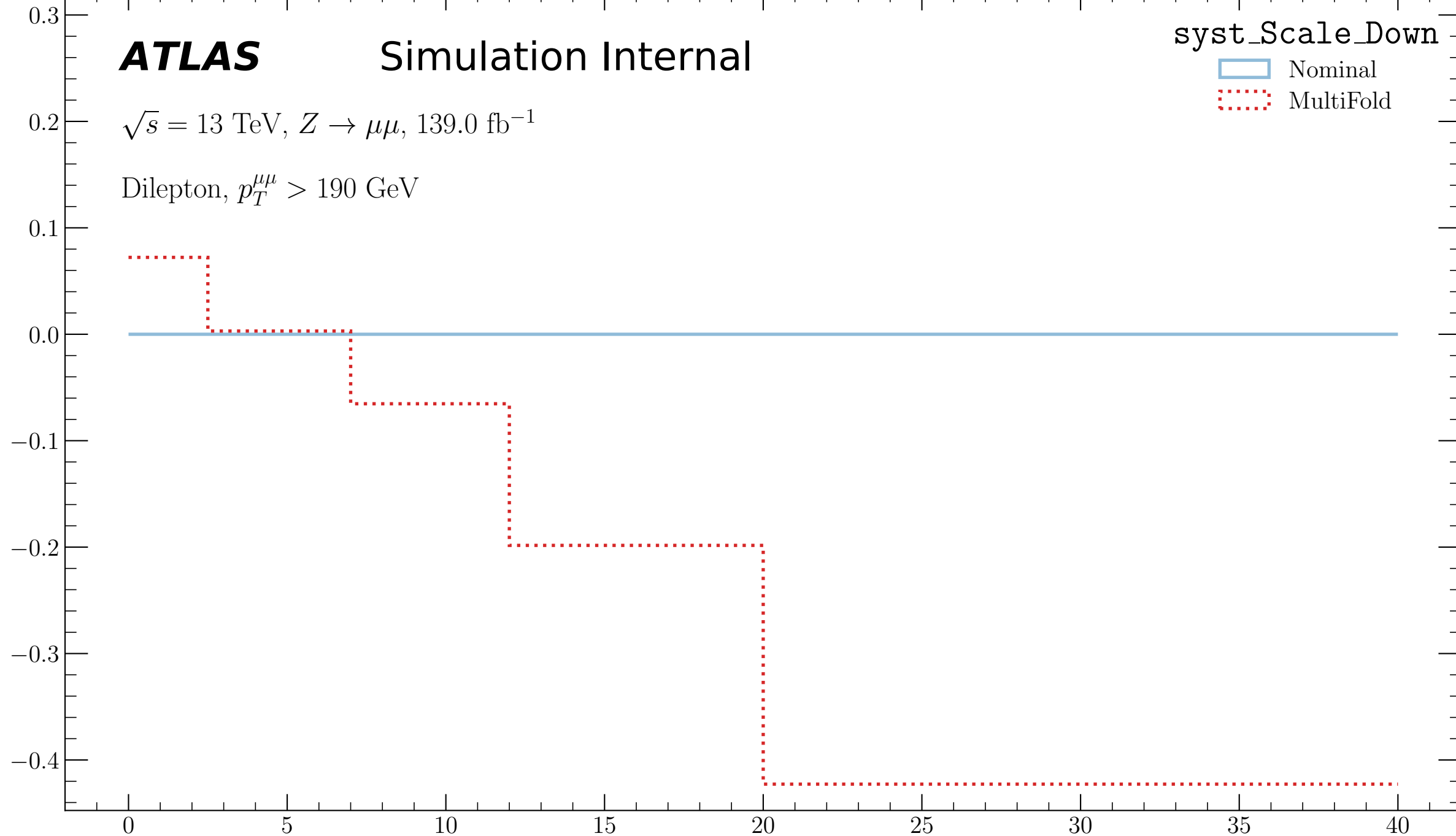
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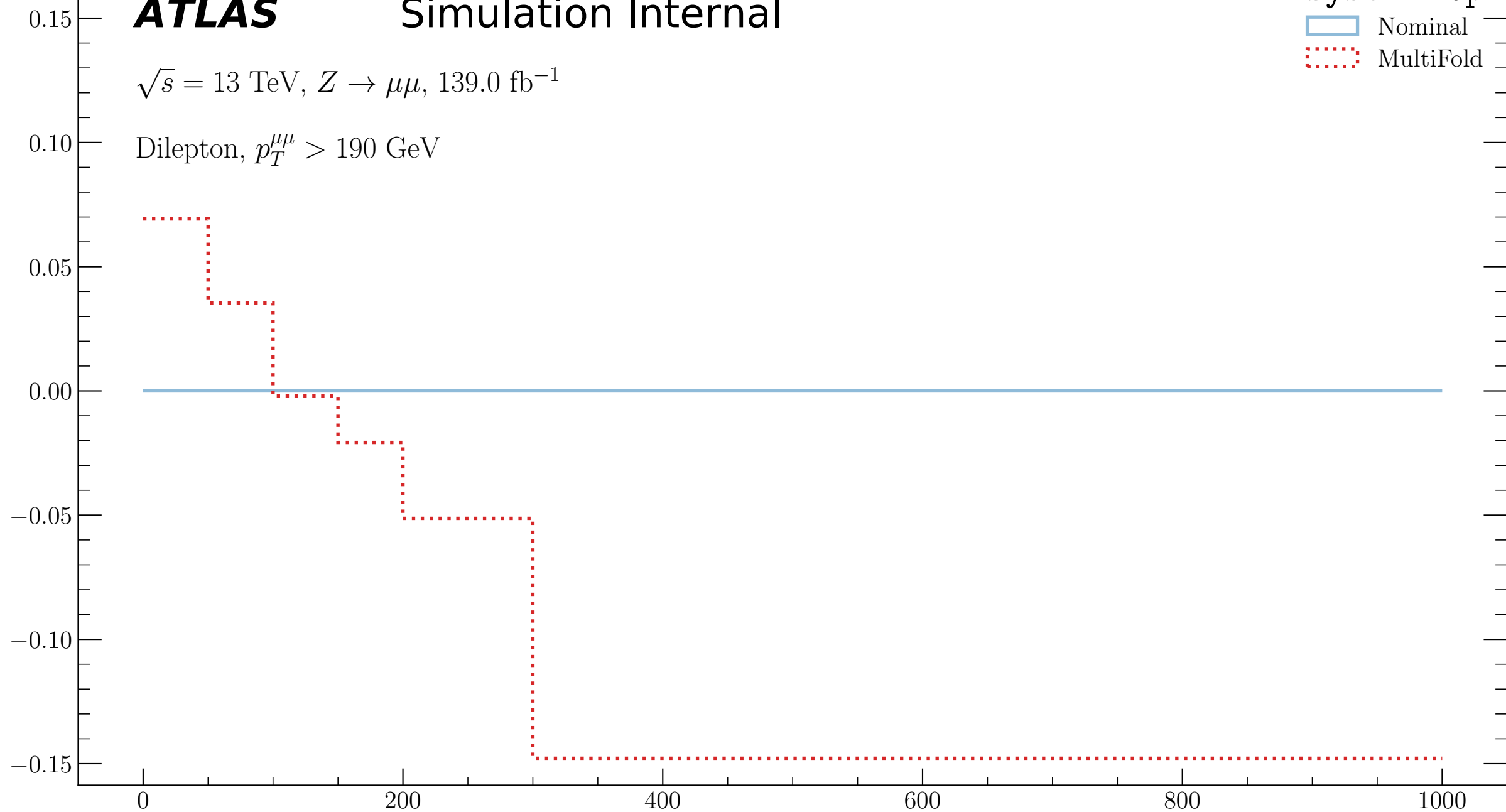
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Leading track jet p_T [GeV]

Relative Systematic Effect (MultiFold)

ATLAS

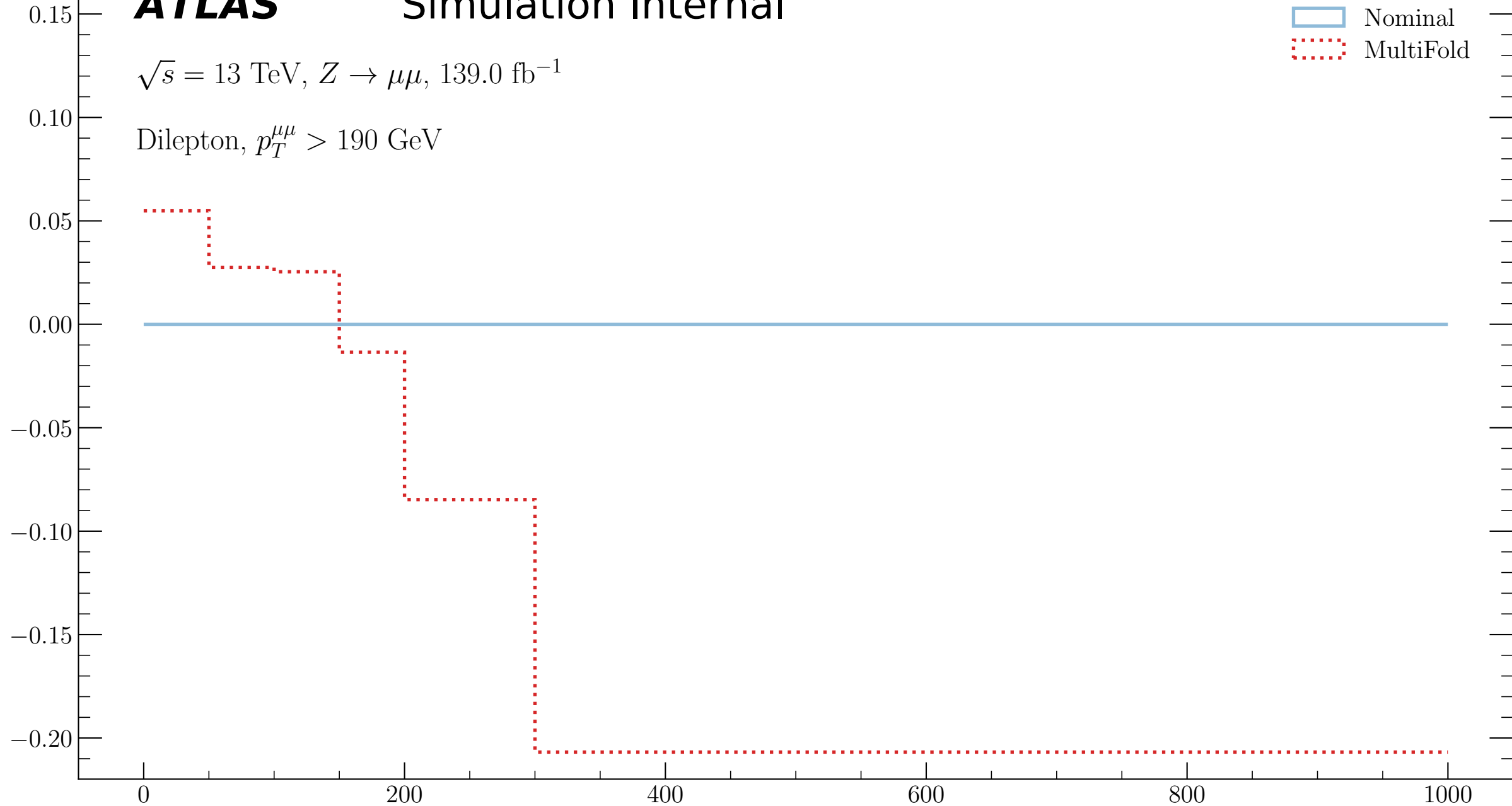
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Leading track jet p_T [GeV]

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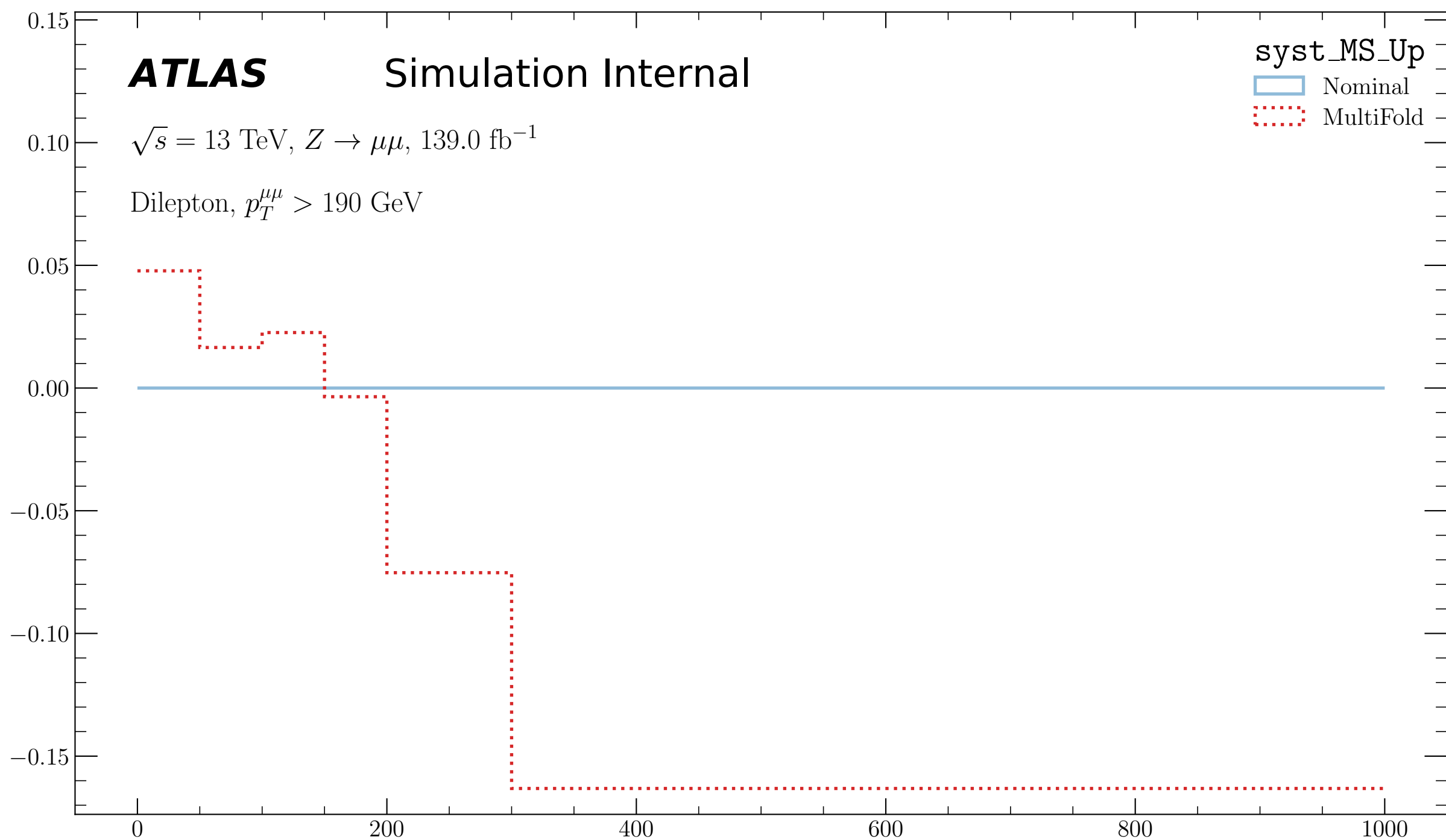
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Leading track jet p_T [GeV]

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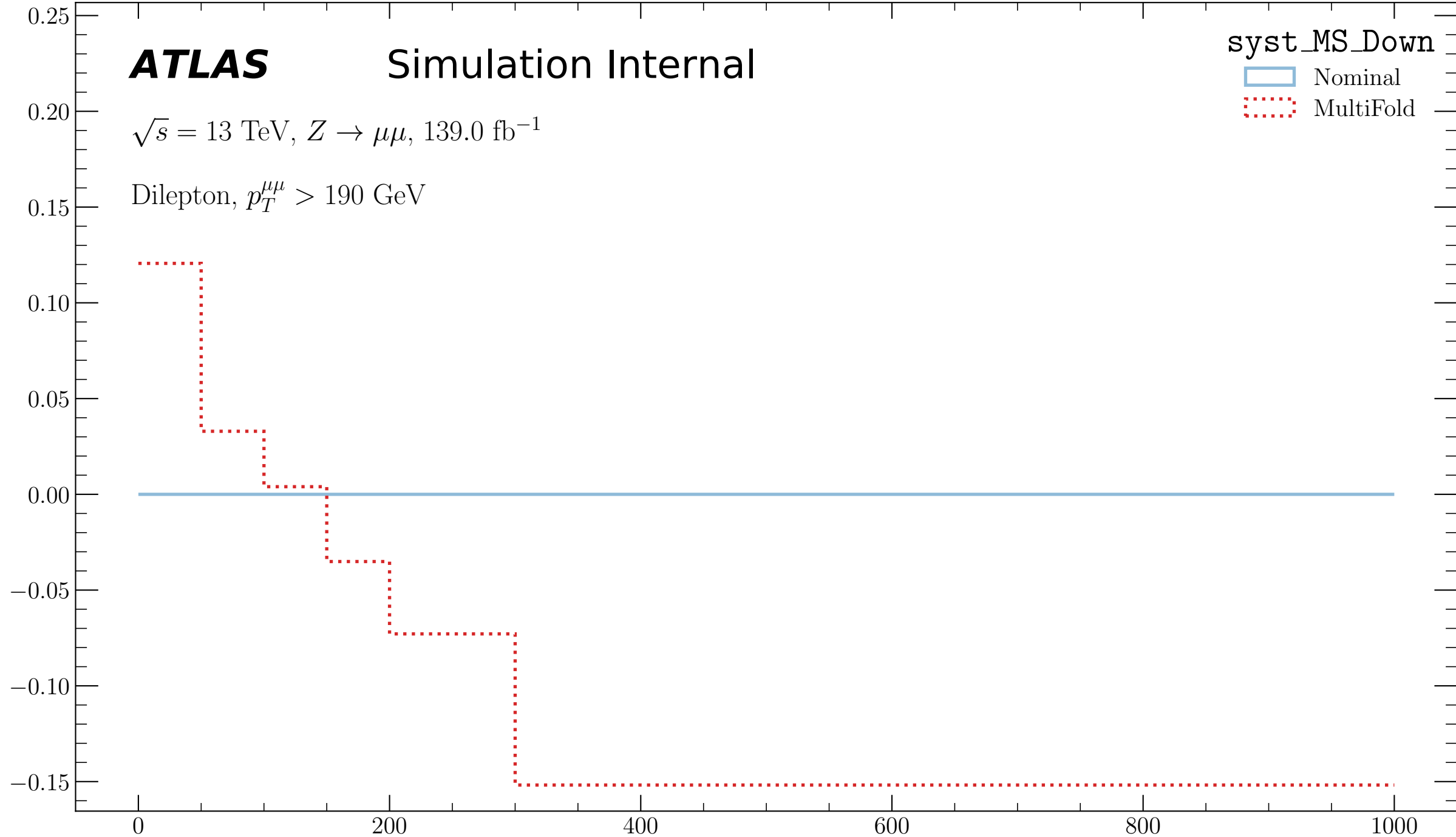
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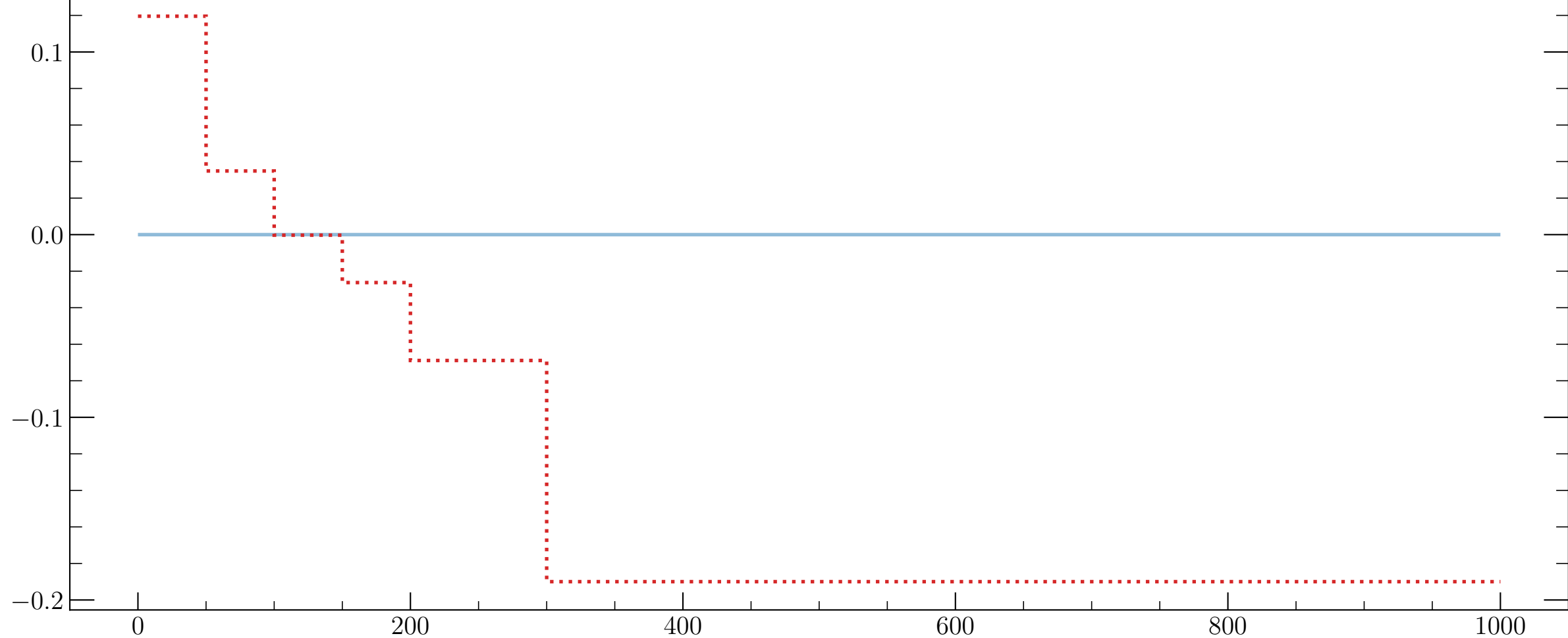


Leading track jet p_T [GeV]

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Simulation Internal

syst_MSResbias_Up

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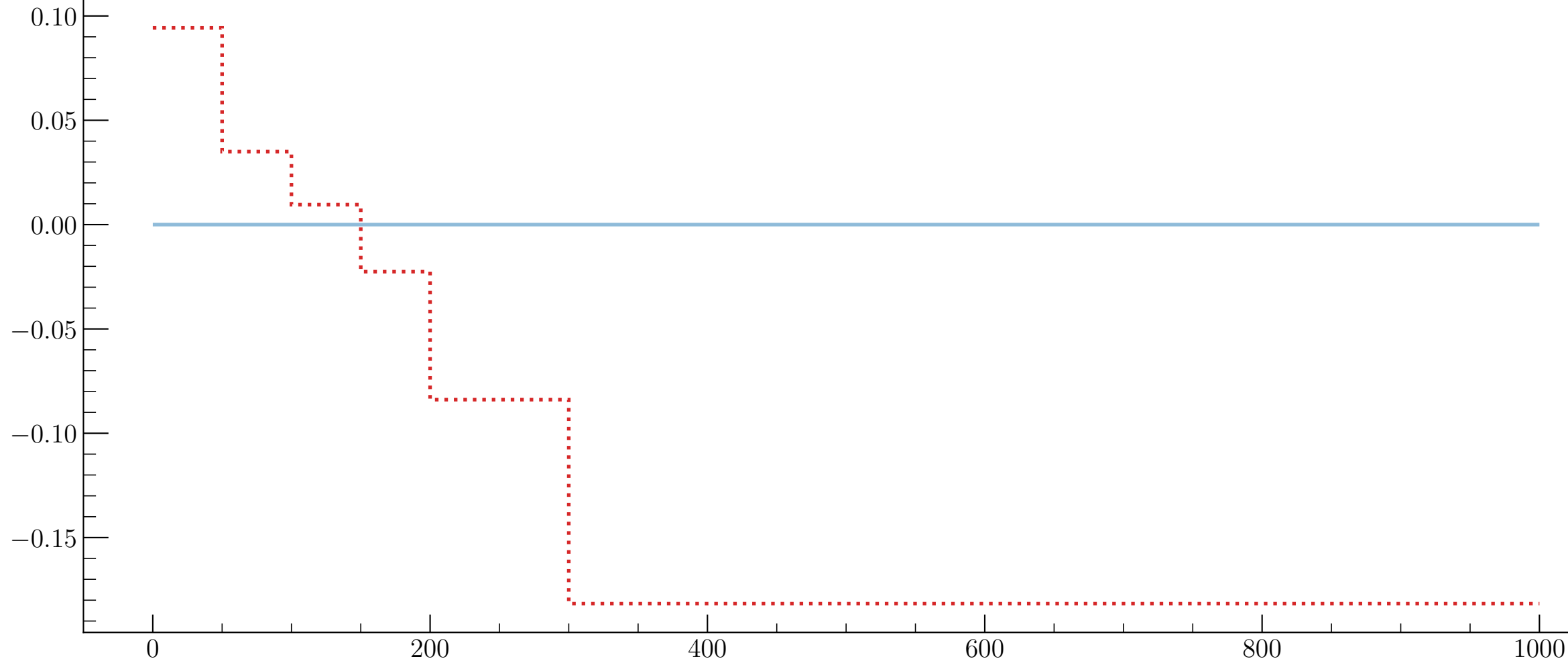
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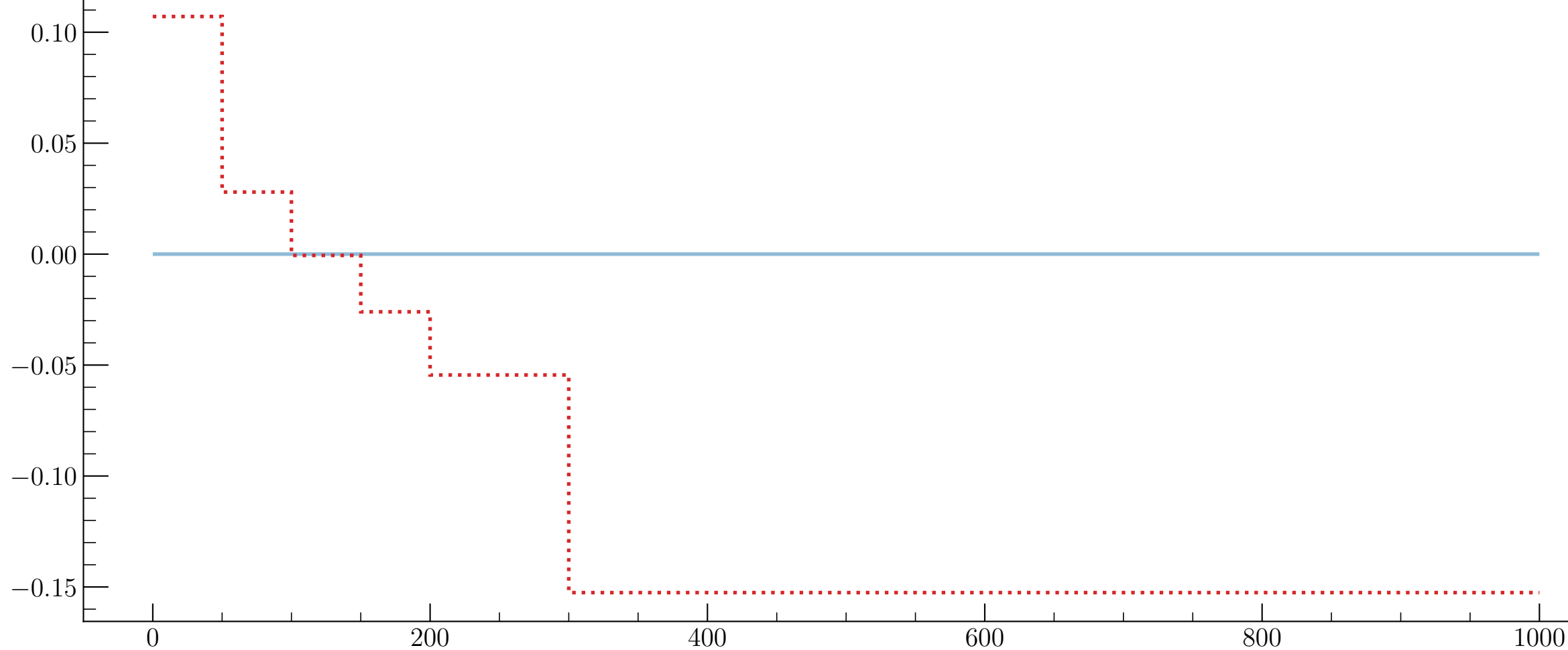
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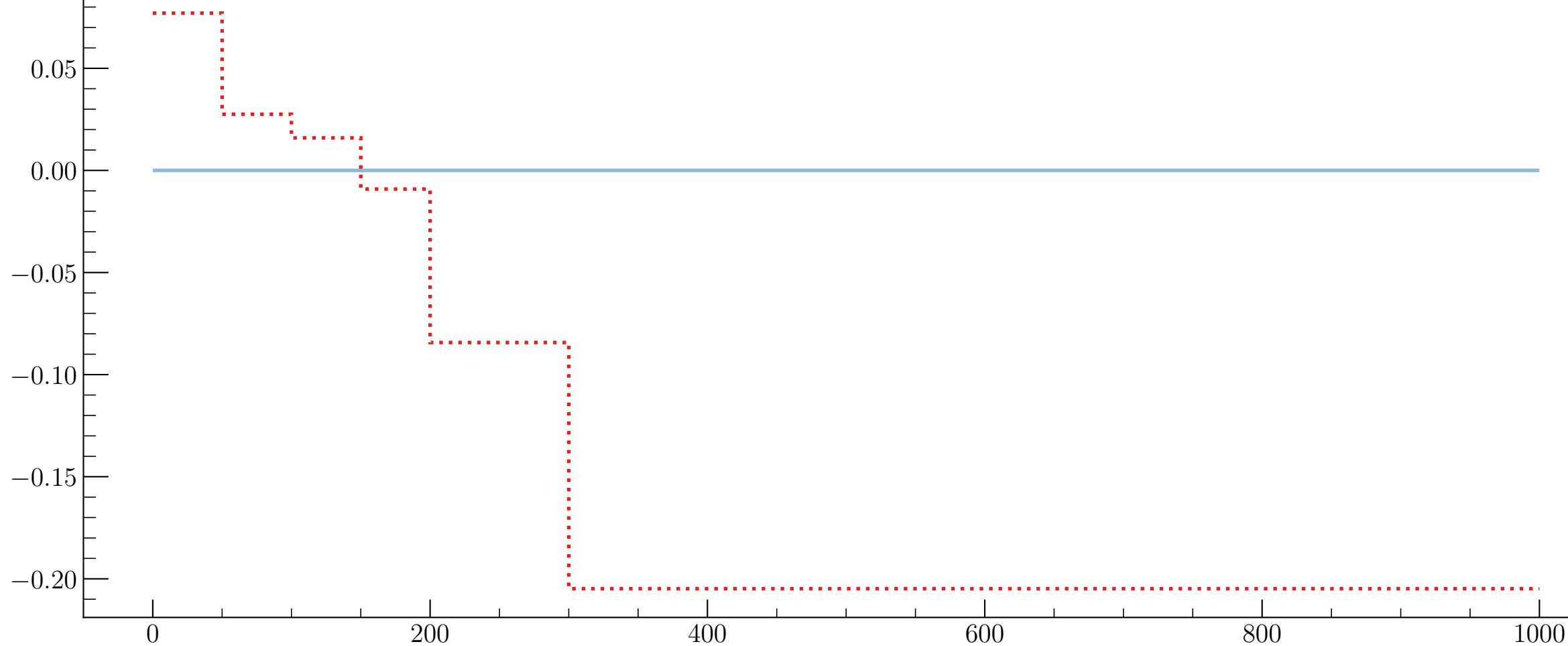
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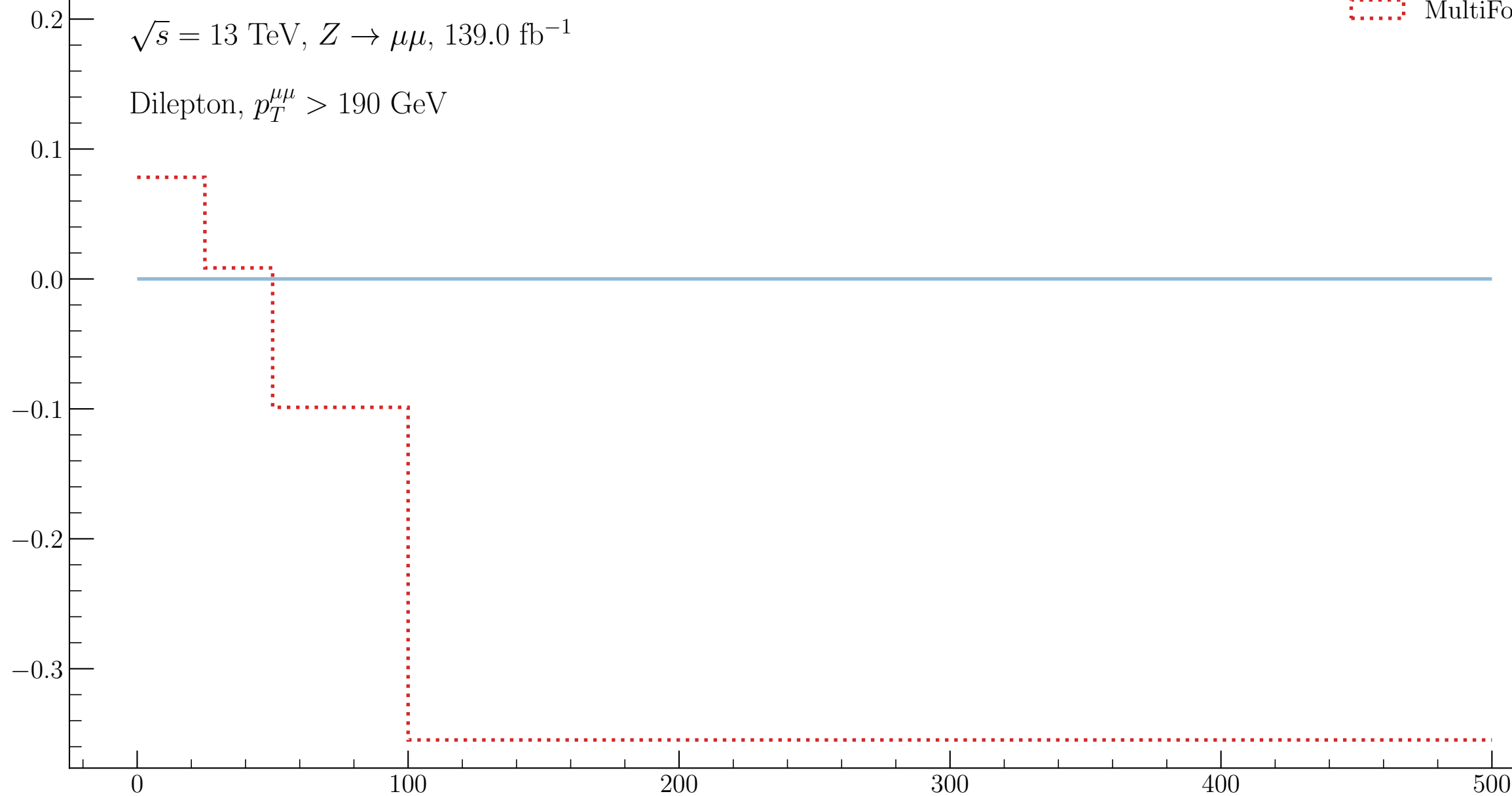
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Subleading track jet p_T [GeV]

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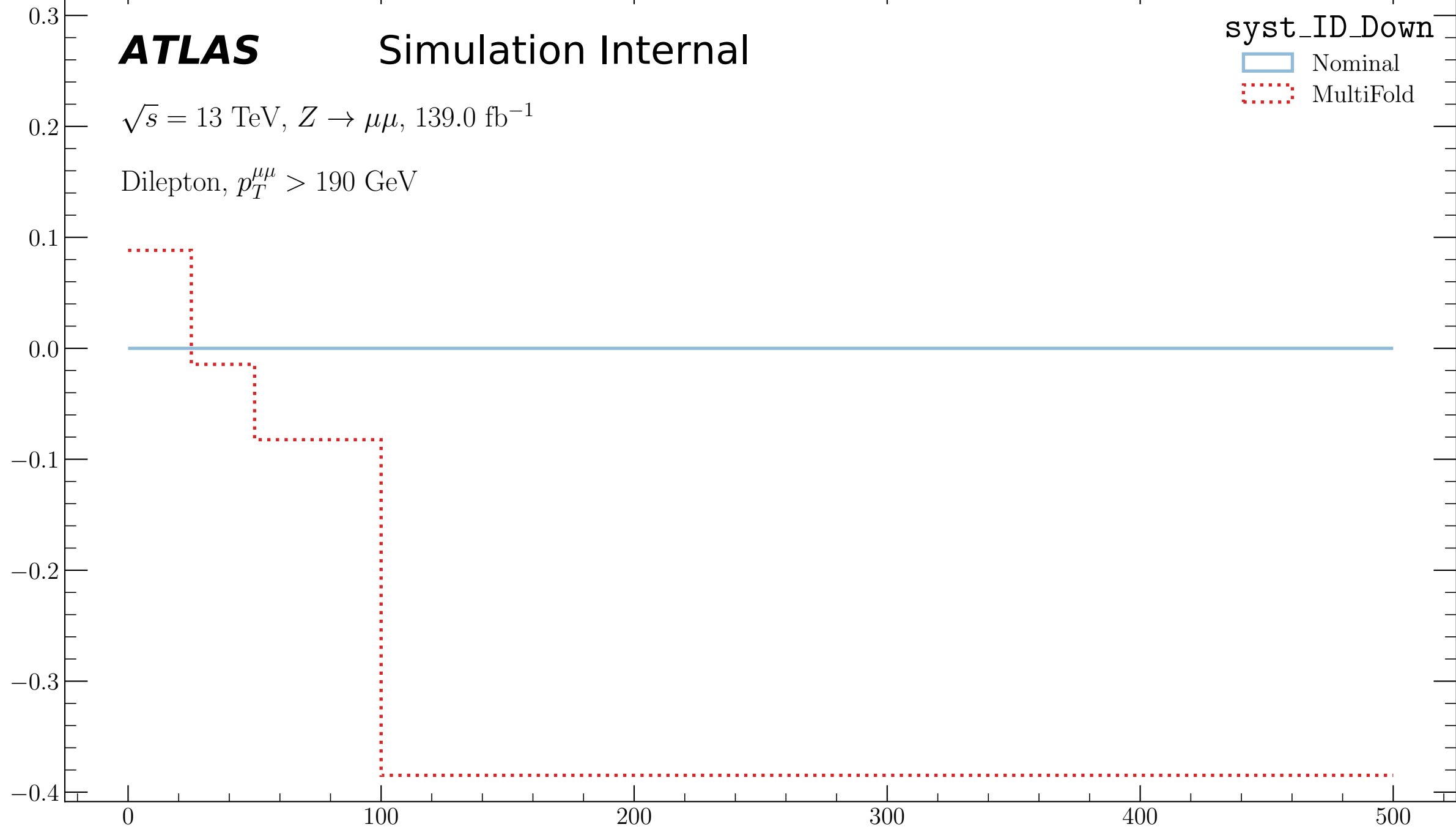
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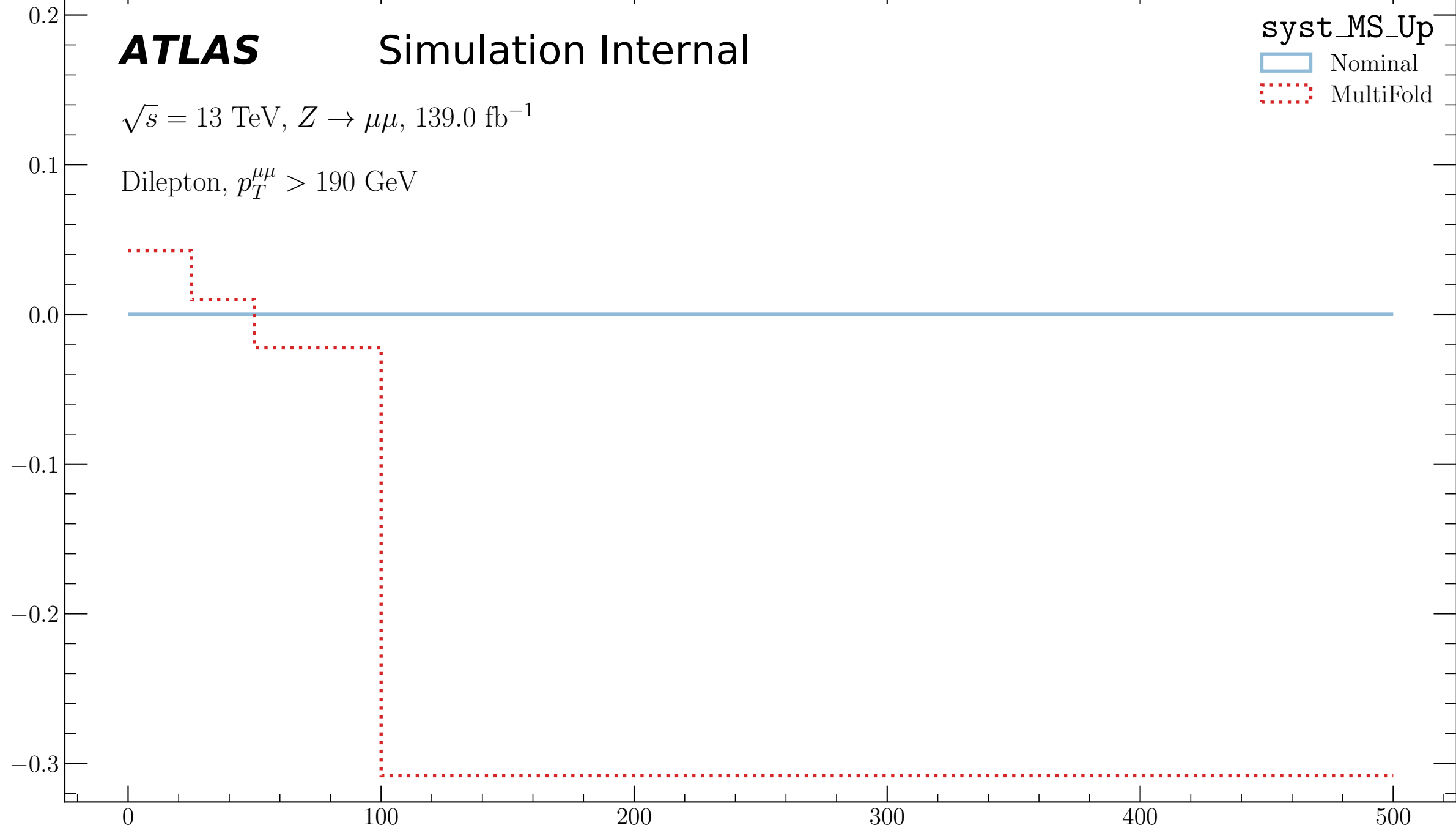
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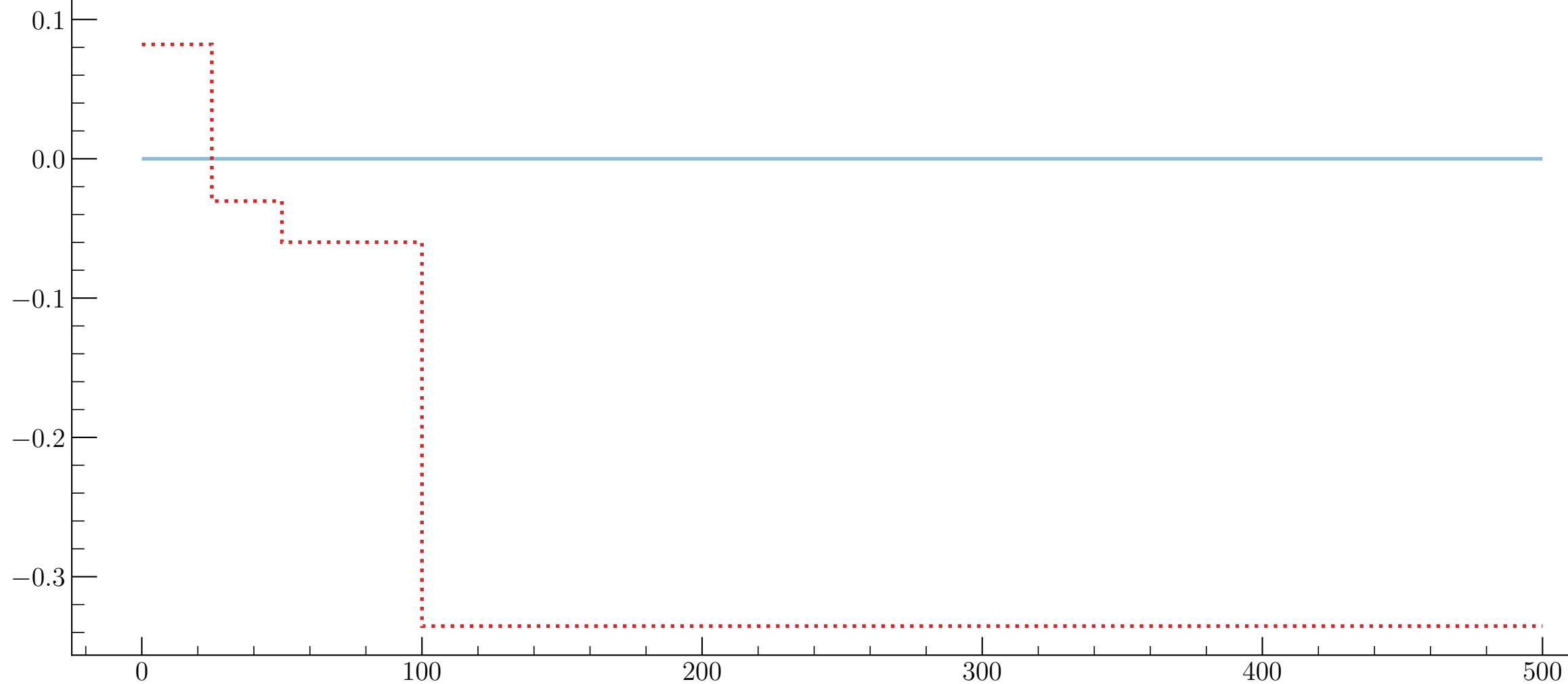


Subleading track jet p_T [GeV]

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Simulation Internal

syst_MS_Down

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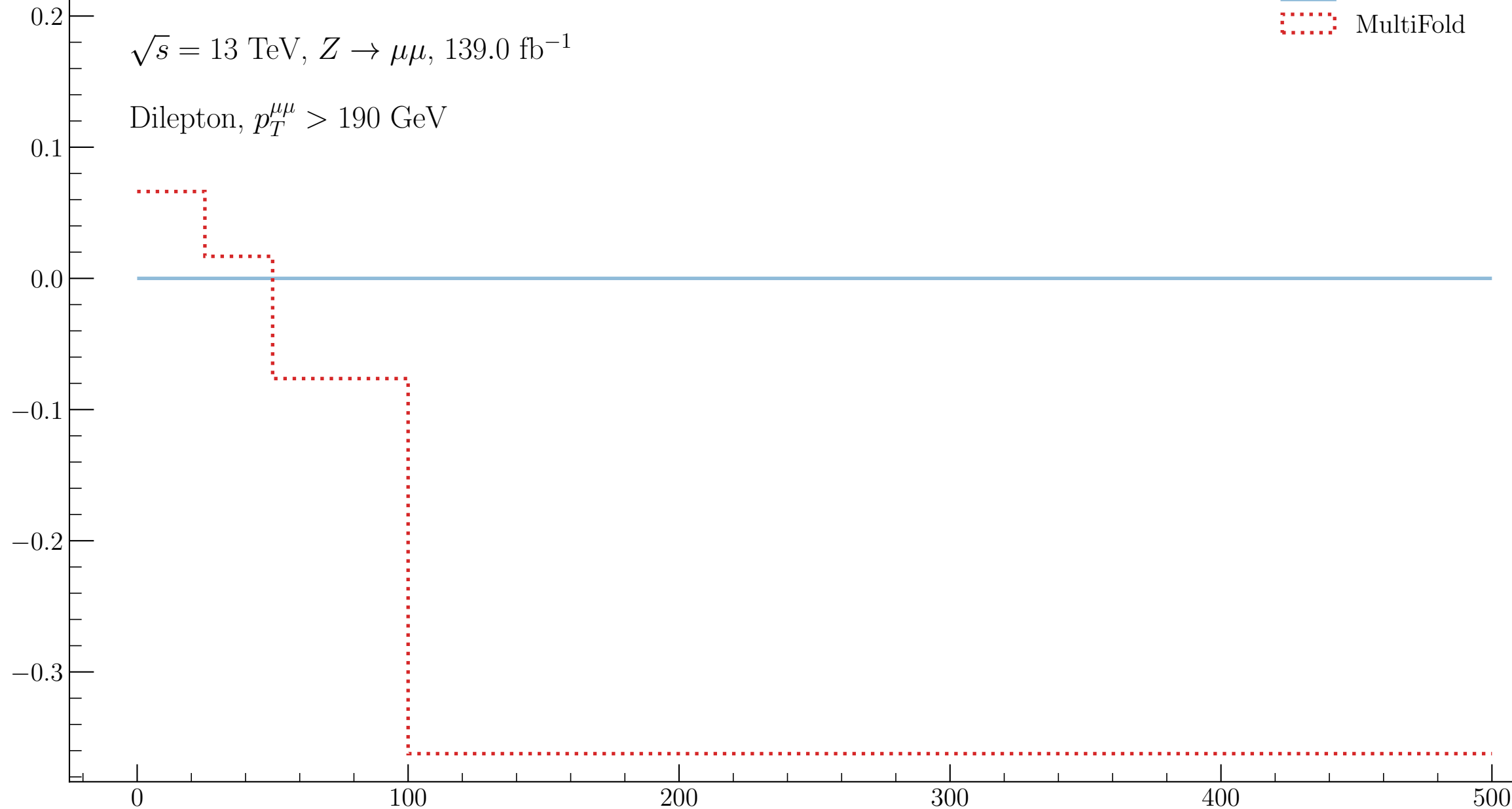
Simulation Internal

syst_MSResbias_Up

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

Nominal
MultiFold



Subleading track jet p_T [GeV]

Relative Systematic Effect (MultiFold)

ATLAS

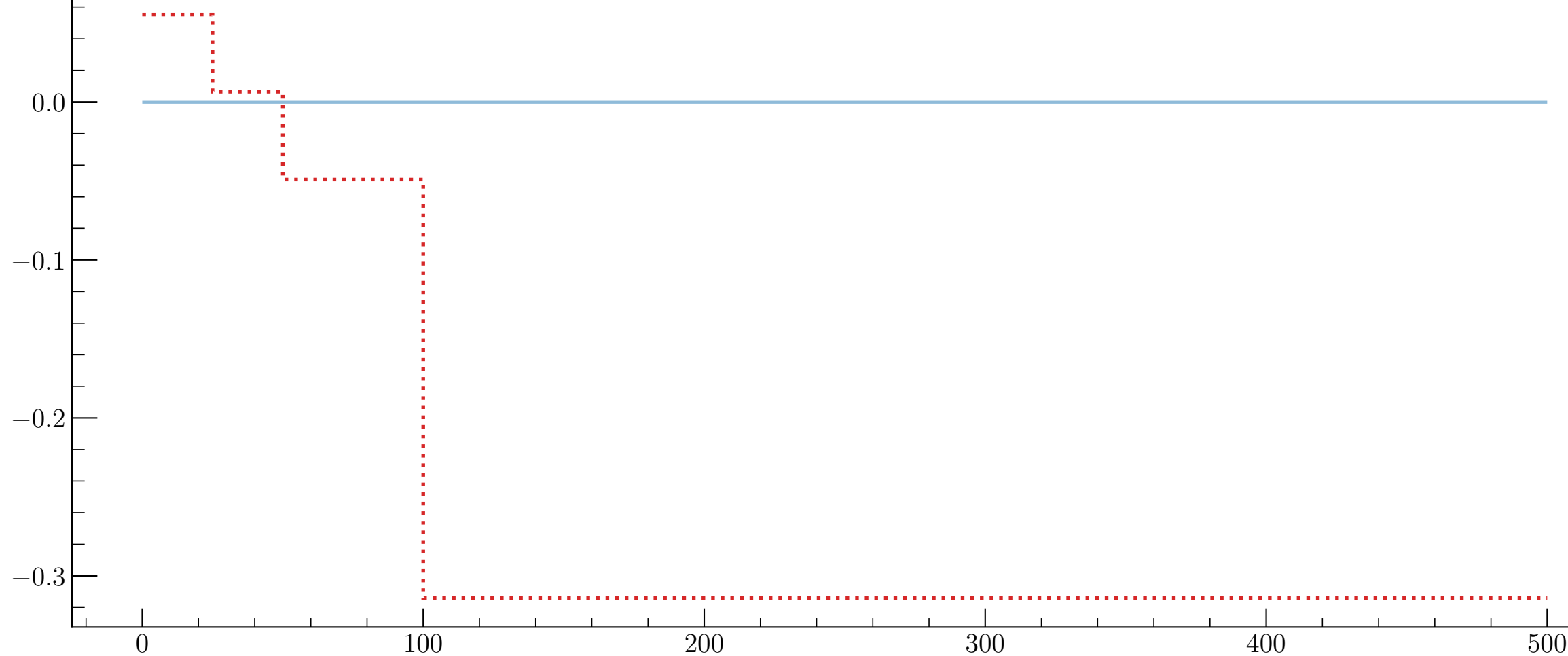
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Down

Nominal
MultiFold



Subleading track jet p_T [GeV]

Relative Systematic Effect (MultiFold)

ATLAS

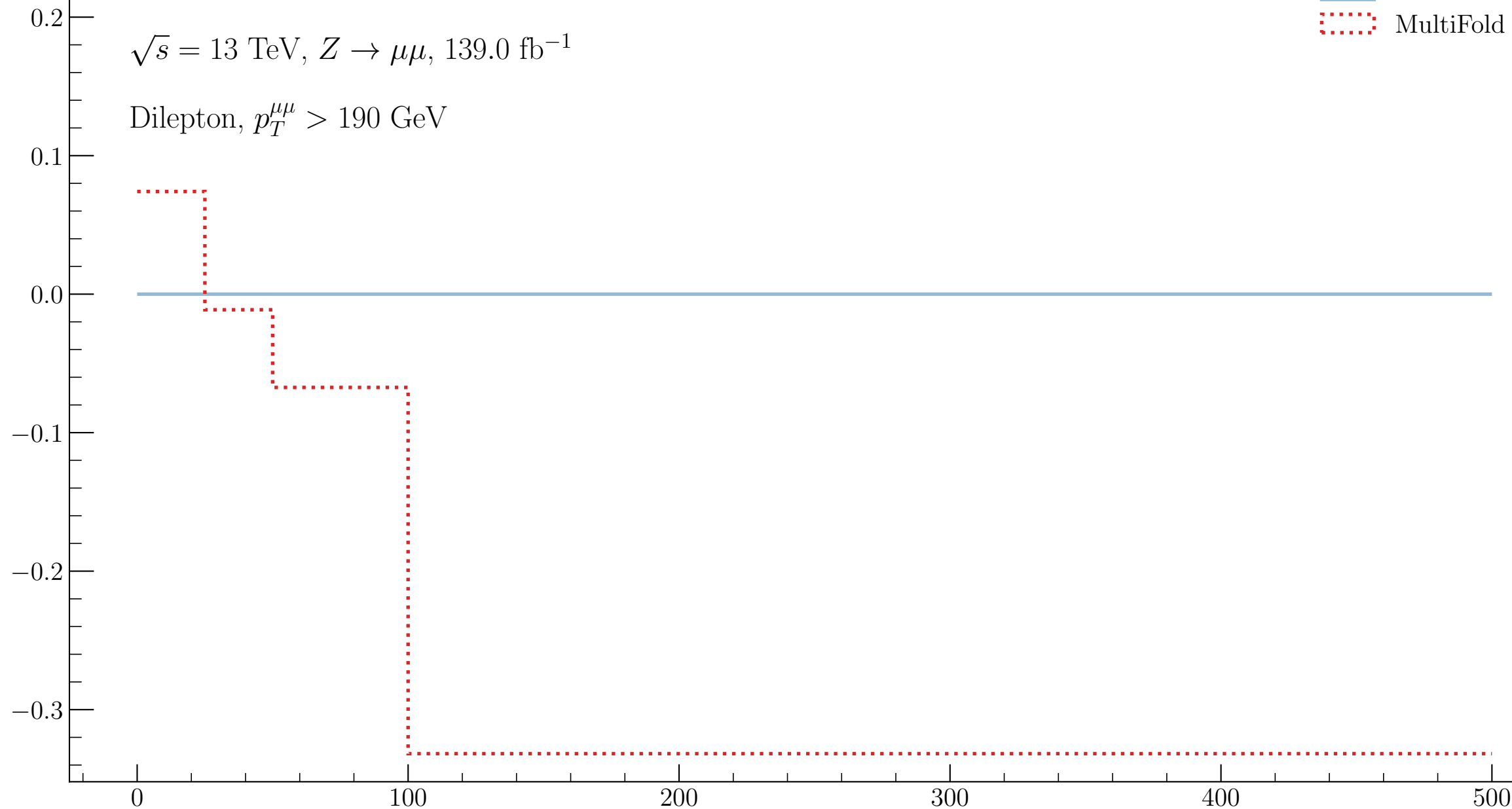
Simulation Internal

syst_Scale_Up

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

Nominal
MultiFold



Subleading track jet p_T [GeV]

Relative Systematic Effect (MultiFold)

ATLAS

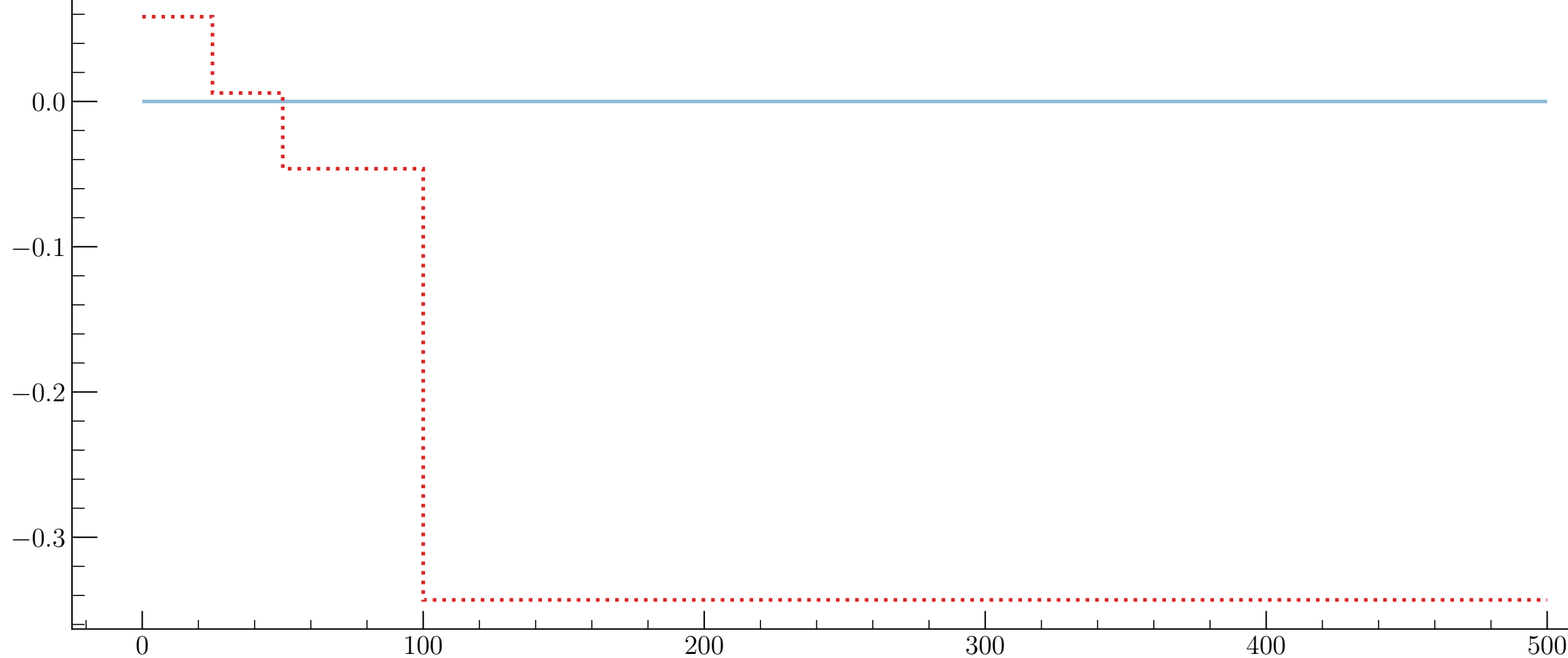
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Down

Nominal
MultiFold



Subleading track jet p_T [GeV]

ATLAS

Simulation Internal

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

syst_ID_Up

Nominal

MultiFold

0.10
0.08
0.06
0.04
0.02
0.00
-0.02

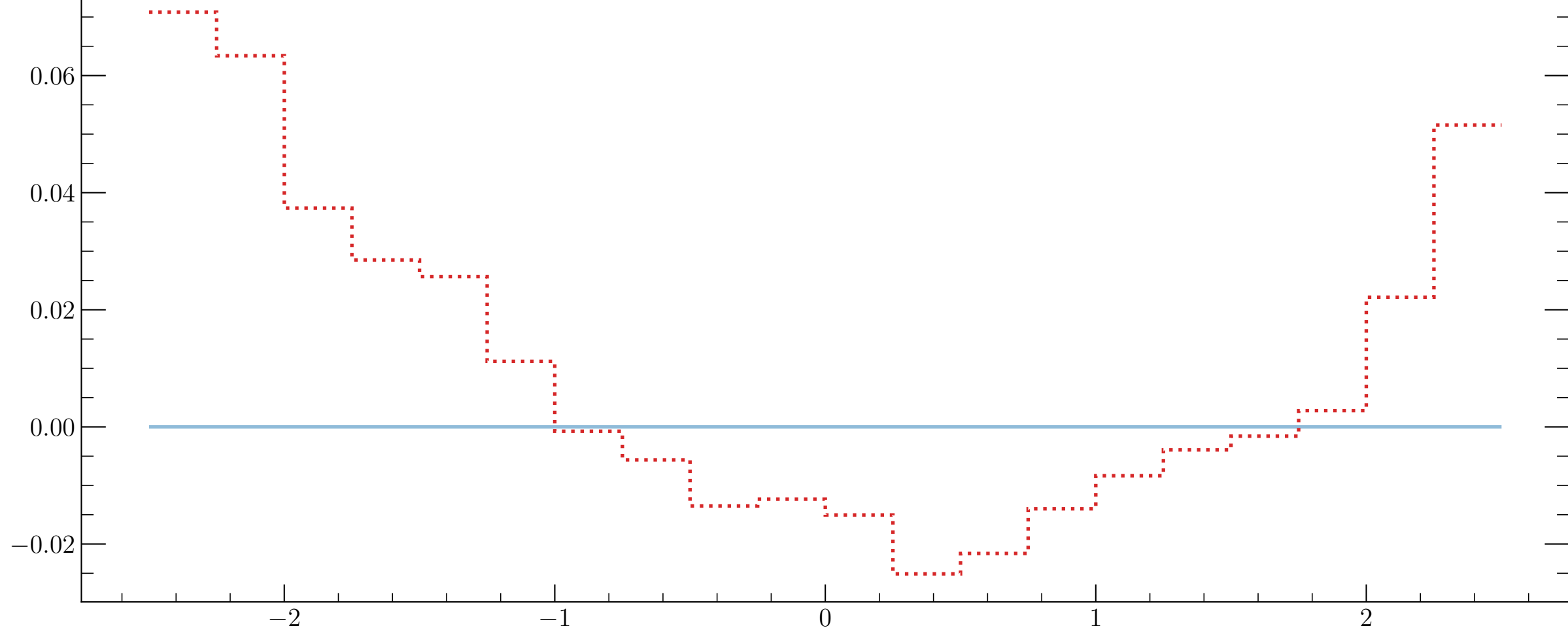
-2

-1

0

1

2

Leading track jet y 

Relative Systematic Effect (MultiFold)

ATLAS

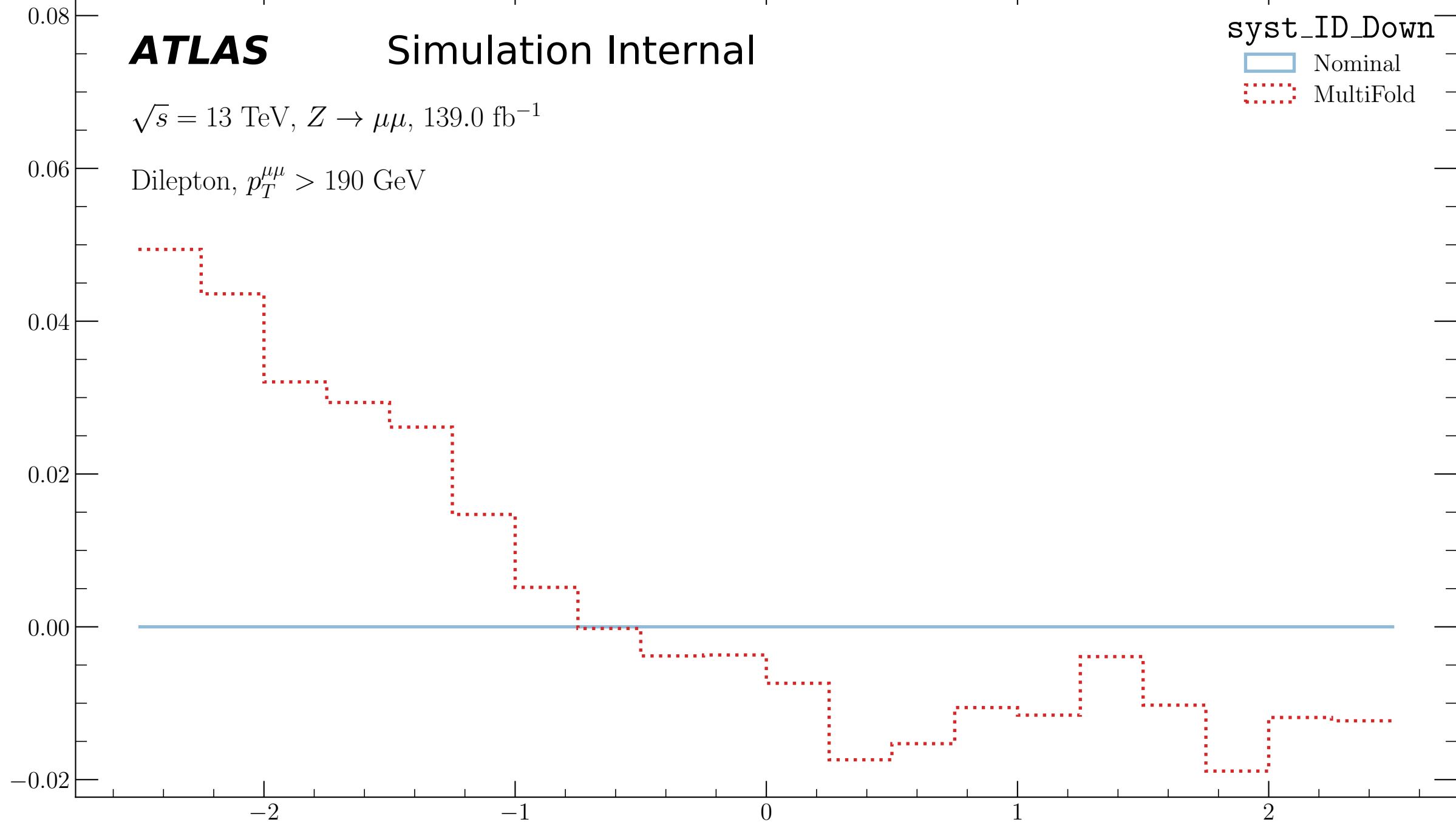
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Down

Nominal
MultiFold



Leading track jet y

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

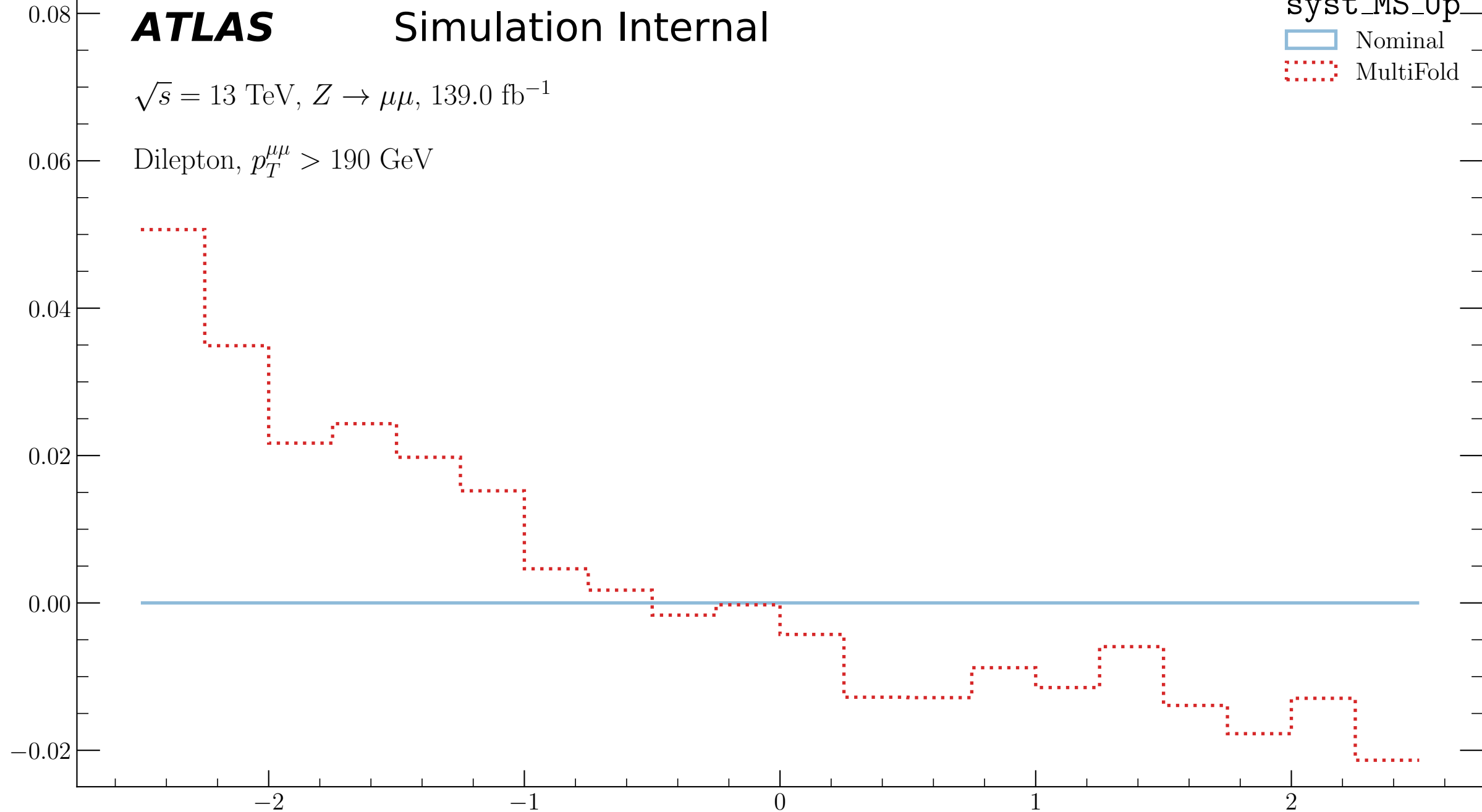
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Up

Nominal

MultiFold



Leading track jet y

Relative Systematic Effect (MultiFold)

ATLAS

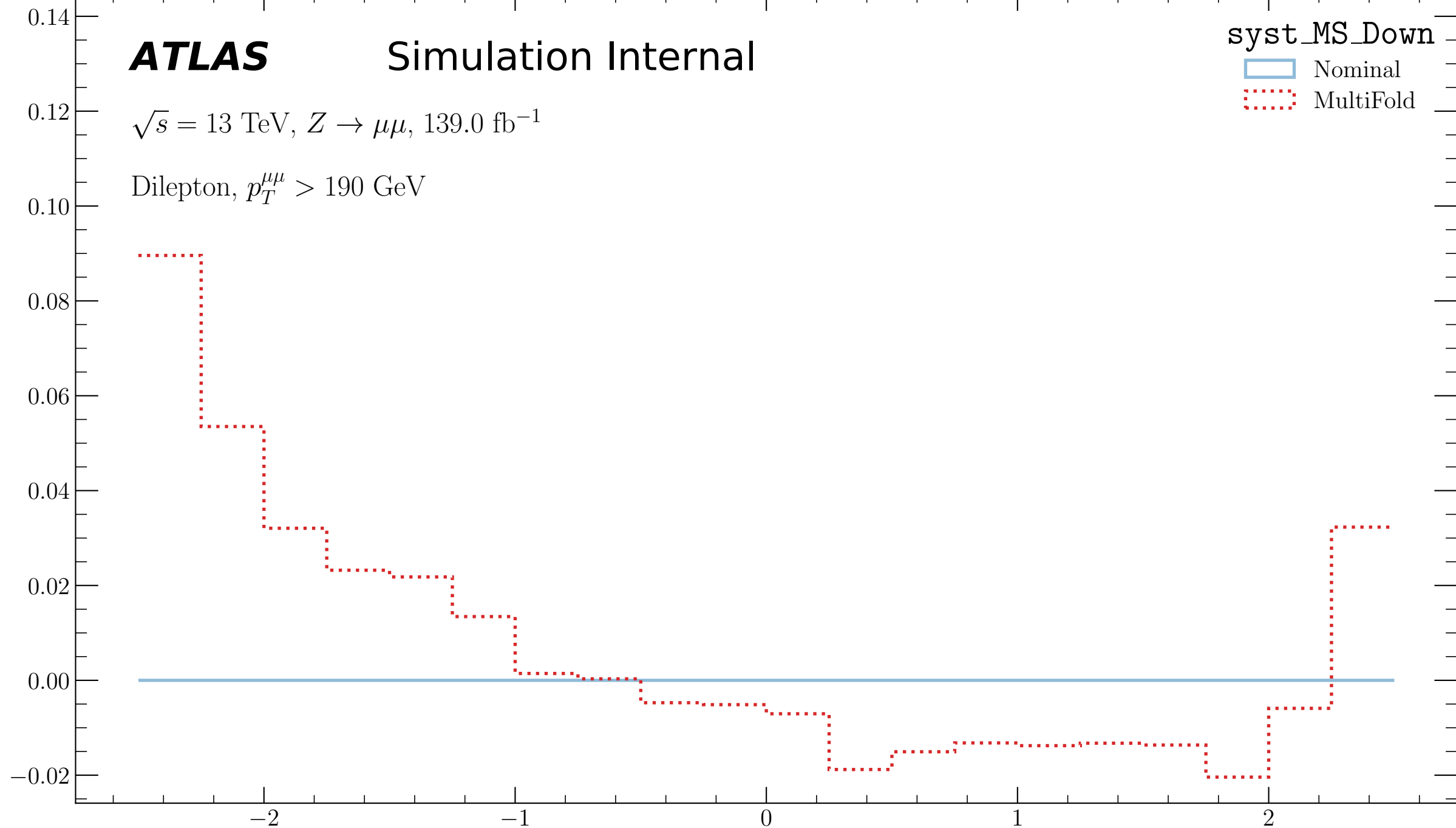
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Down

Nominal
MultiFold



Leading track jet y

Relative Systematic Effect (MultiFold)

ATLAS

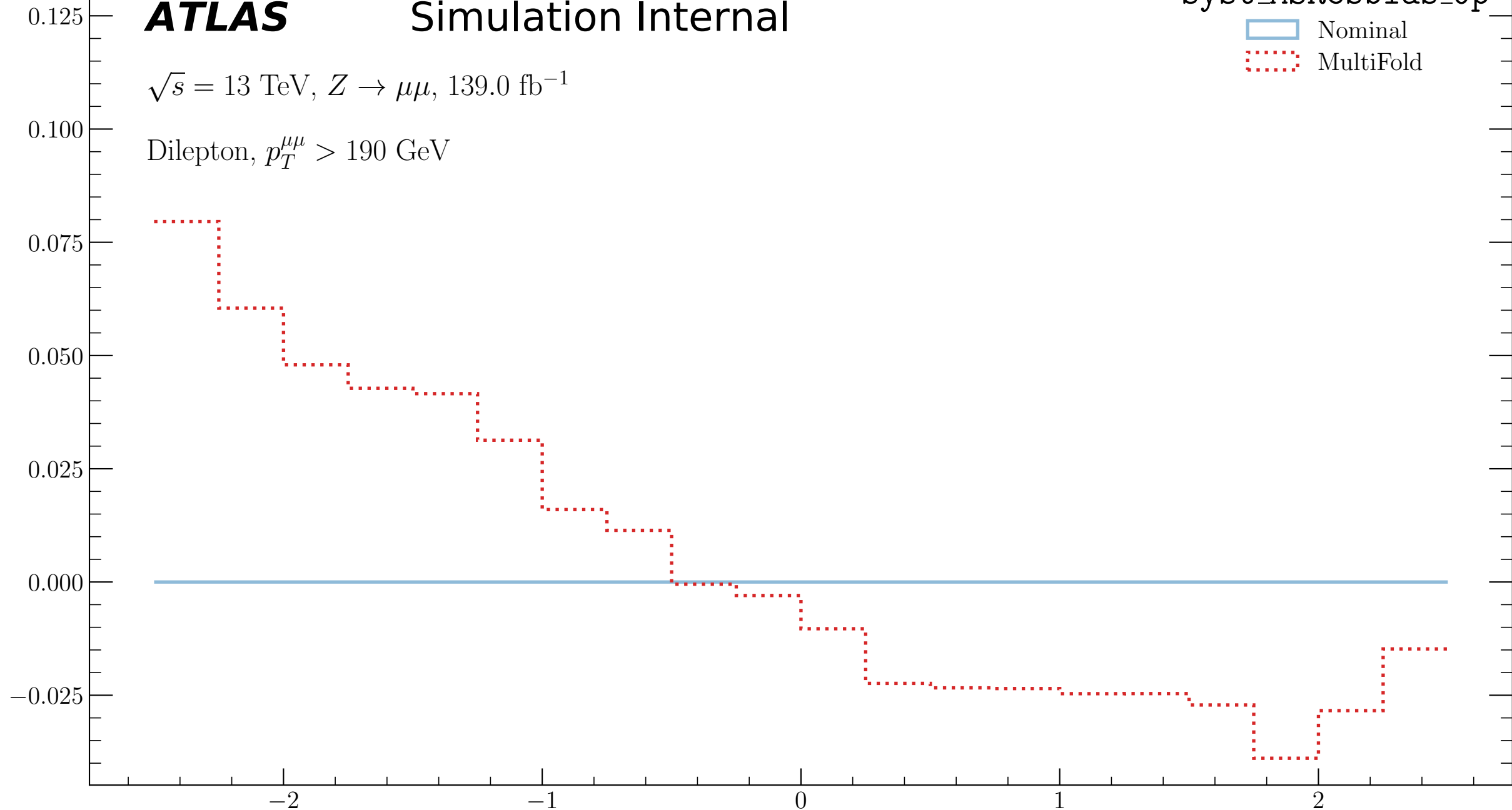
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Up

Nominal
MultiFold



Leading track jet y

Relative Systematic Effect (MultiFold)

ATLAS

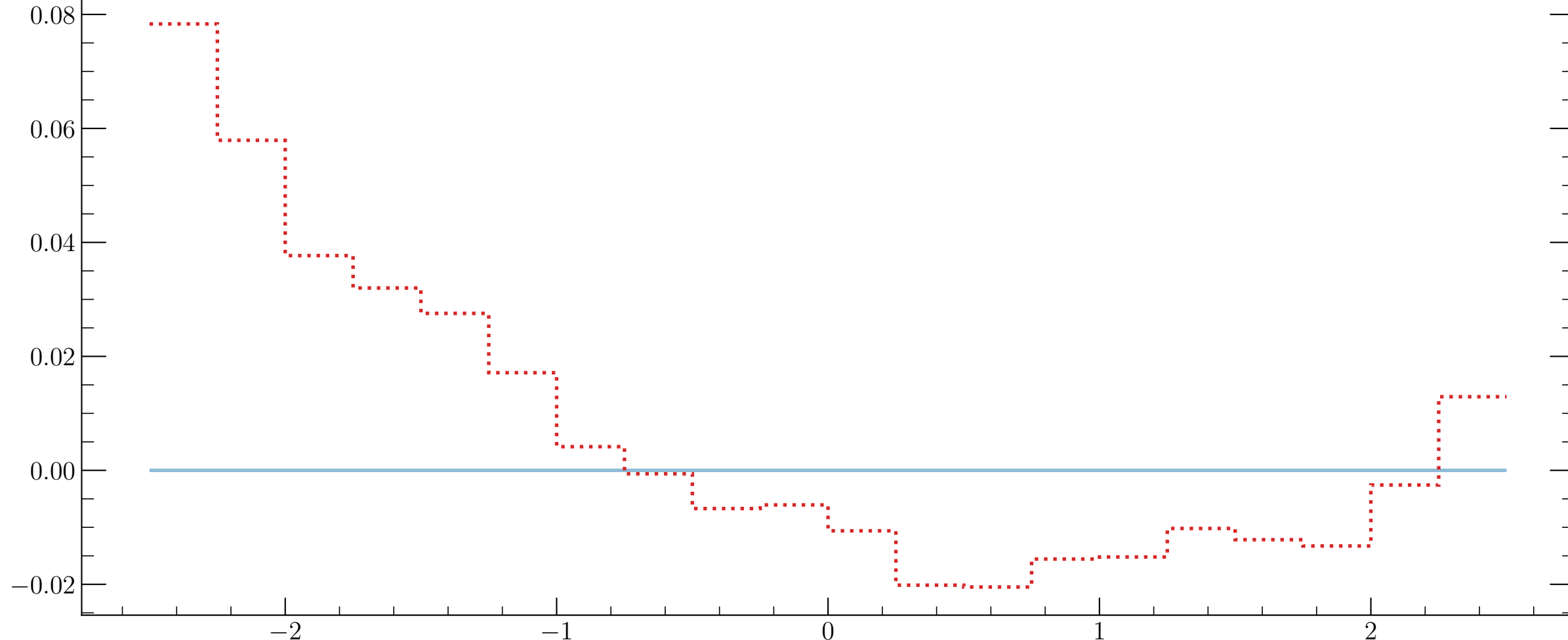
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Down

Nominal
MultiFold



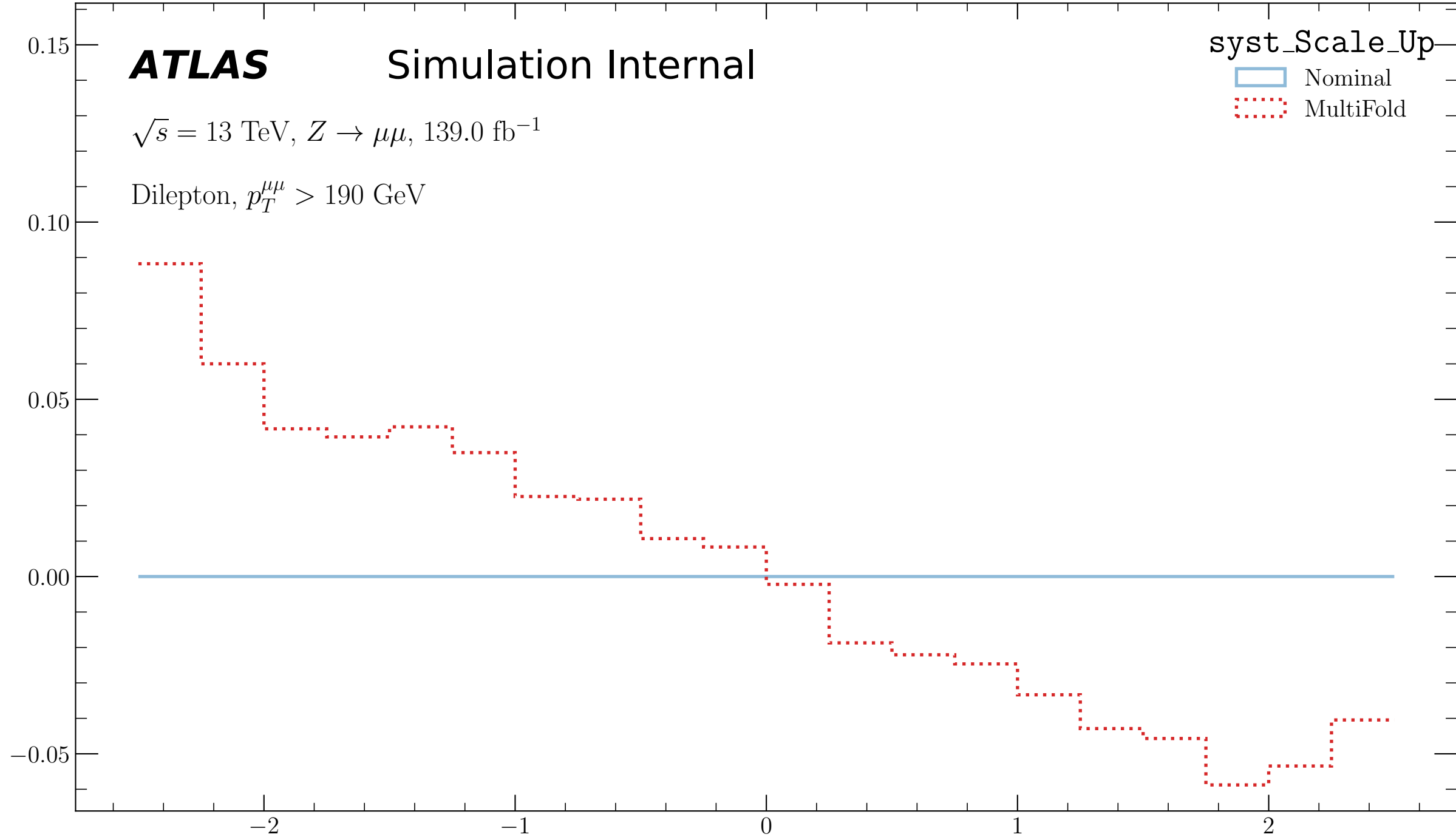
Leading track jet y

ATLAS

Simulation Internal

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

syst_Scale_Up

Nominal
MultiFoldLeading track jet y

Relative Systematic Effect (MultiFold)

ATLAS

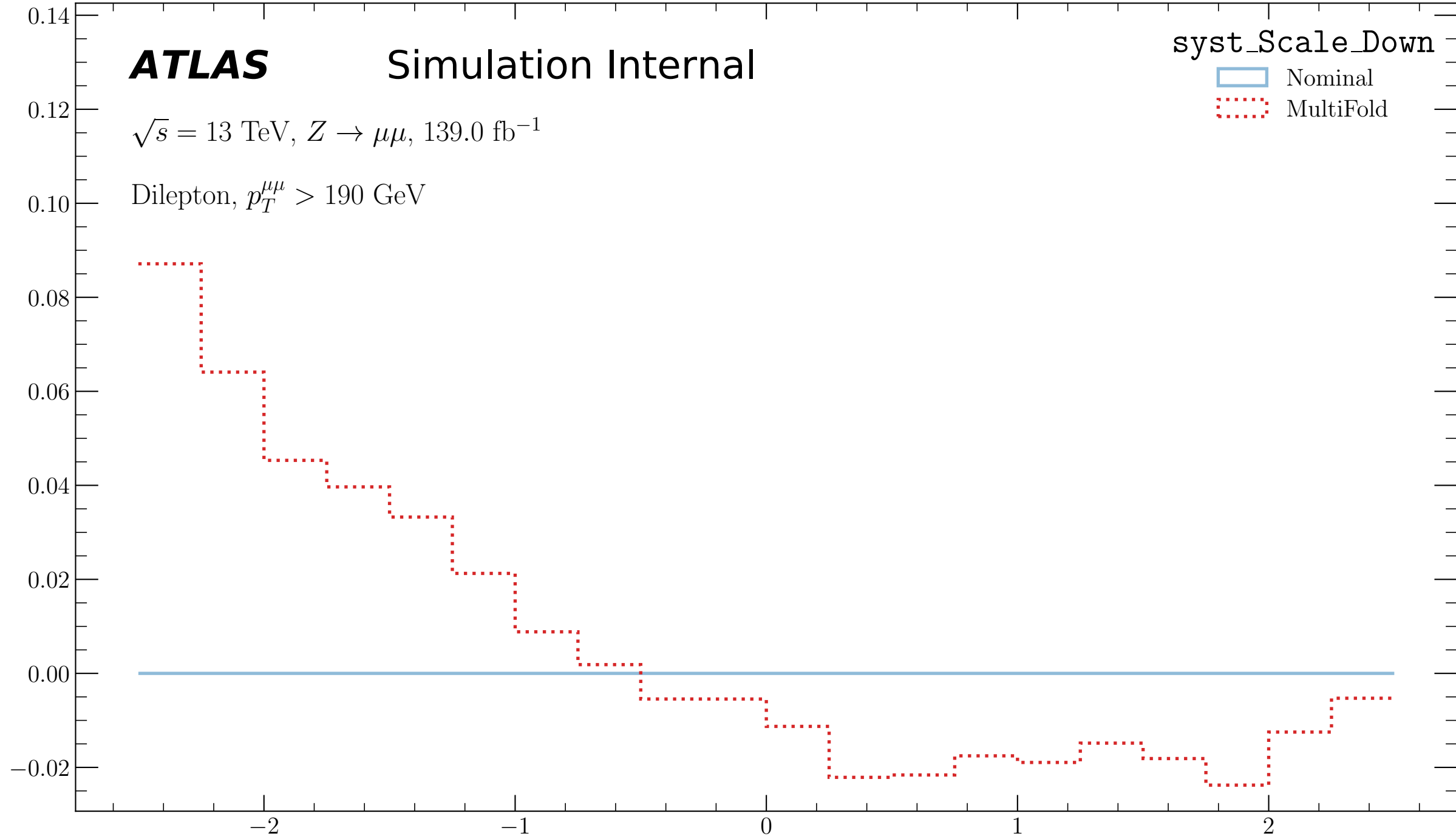
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Down

Nominal
MultiFold



Leading track jet y

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

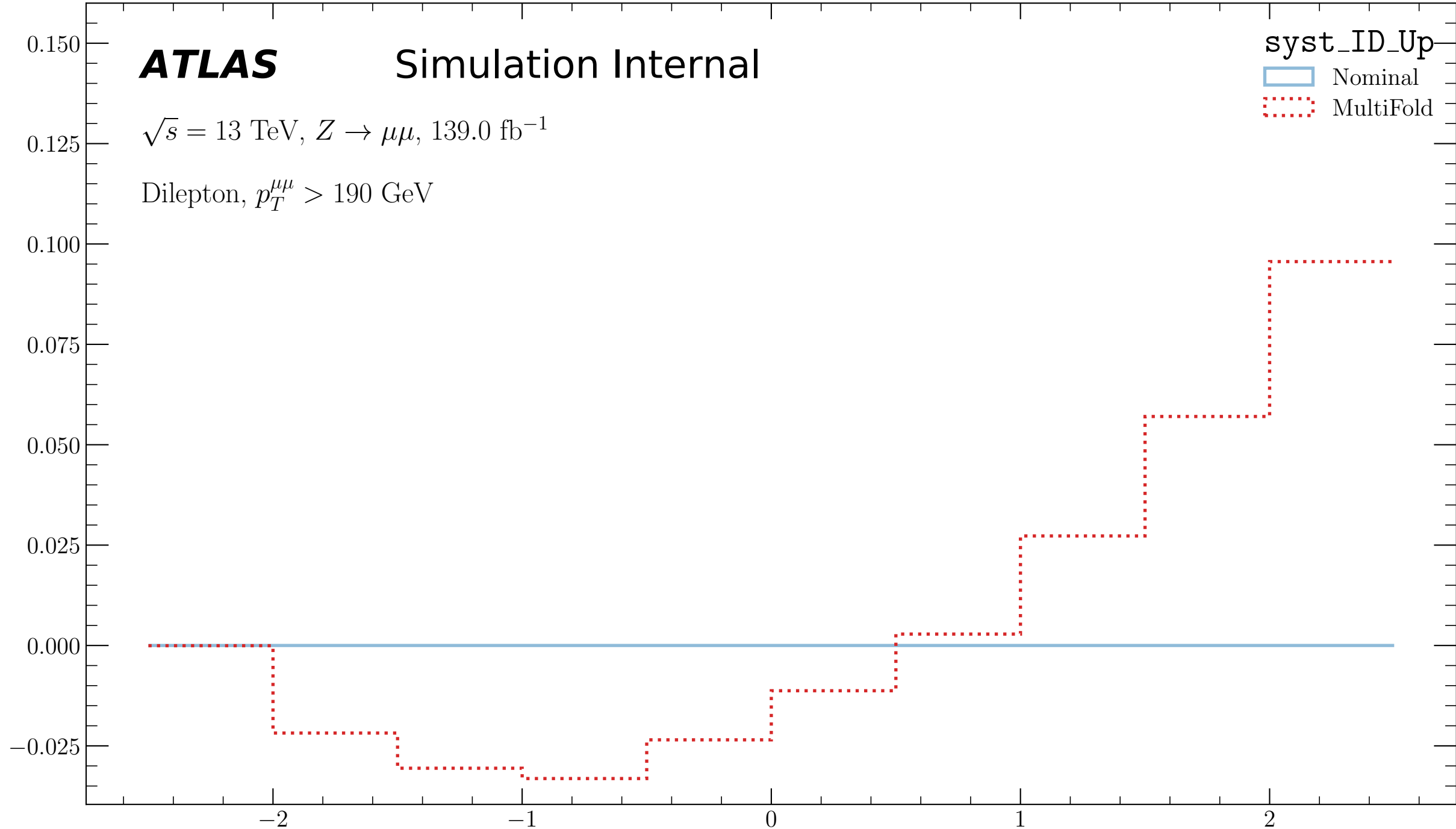
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Up

Nominal

MultiFold



Subleading track jet y

Relative Systematic Effect (MultiFold)

ATLAS

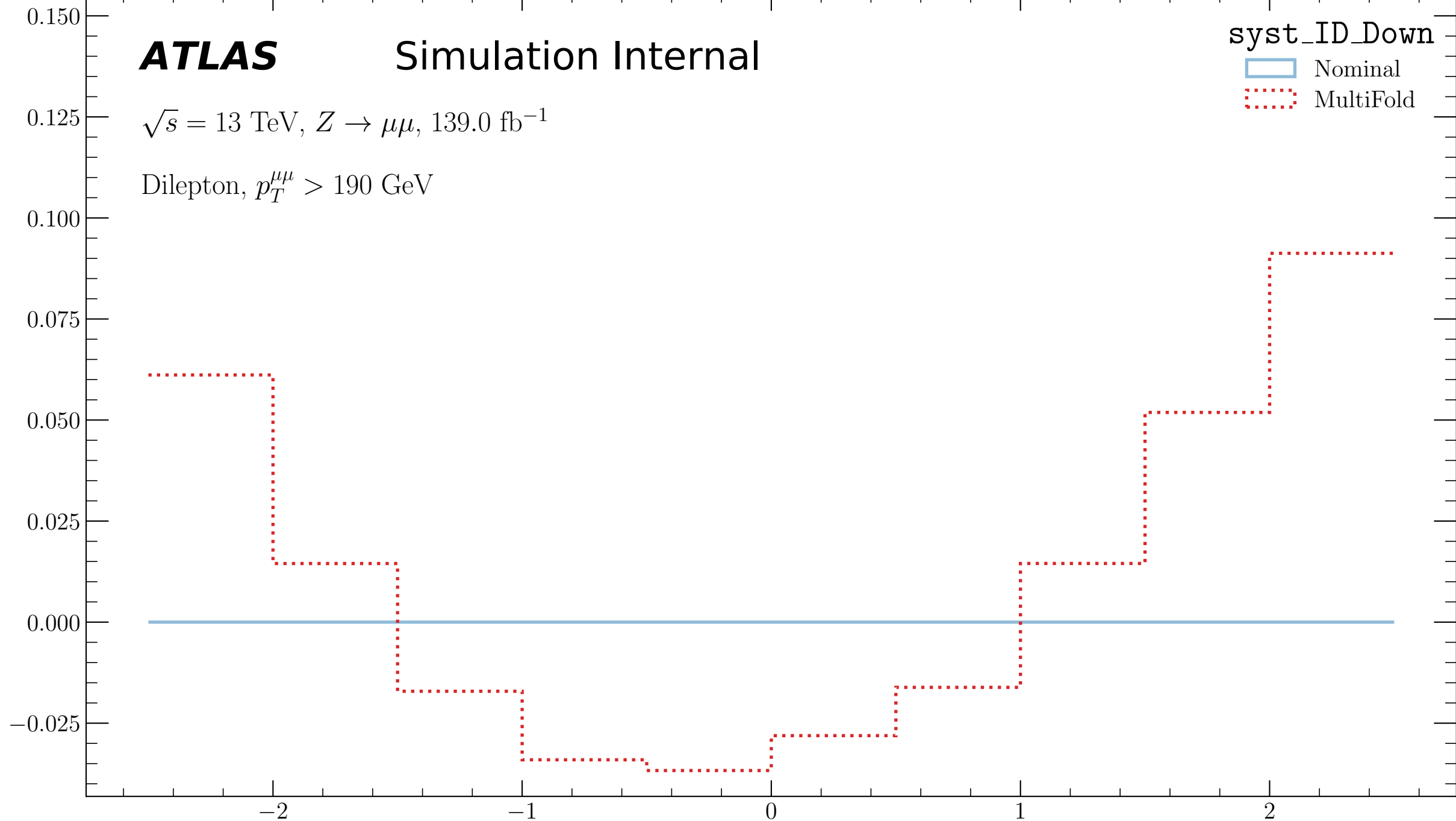
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Down

Nominal
MultiFold



Subleading track jet y

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

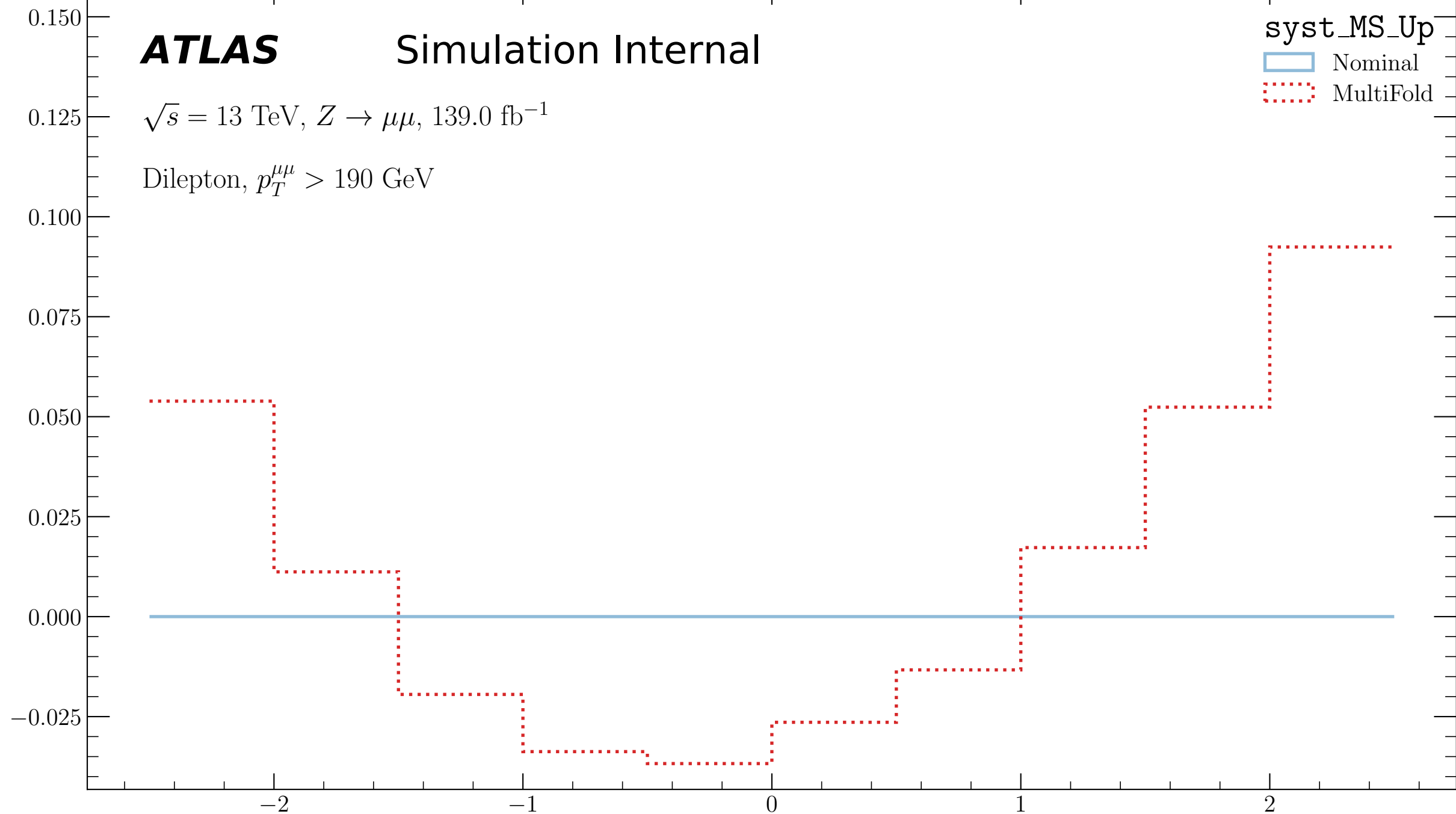
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Up

Nominal

MultiFold



Subleading track jet y

ATLAS

Simulation Internal

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

syst_MS_Down

Nominal
MultiFold0.08
0.06
0.04
0.02
0.00
-0.02

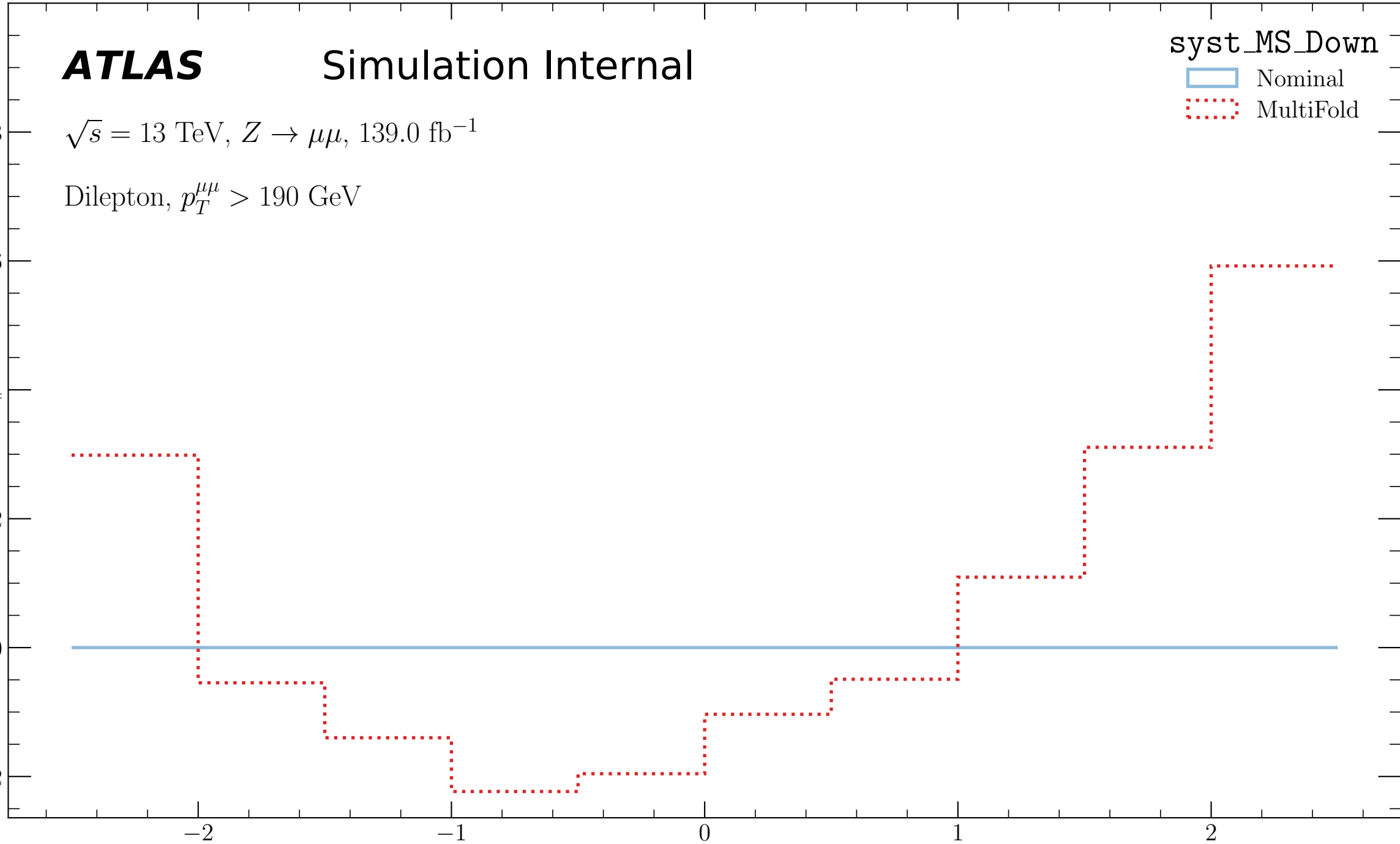
-2

-1

0

1

2

Subleading track jet y 

Relative Systematic Effect (MultiFold)

ATLAS

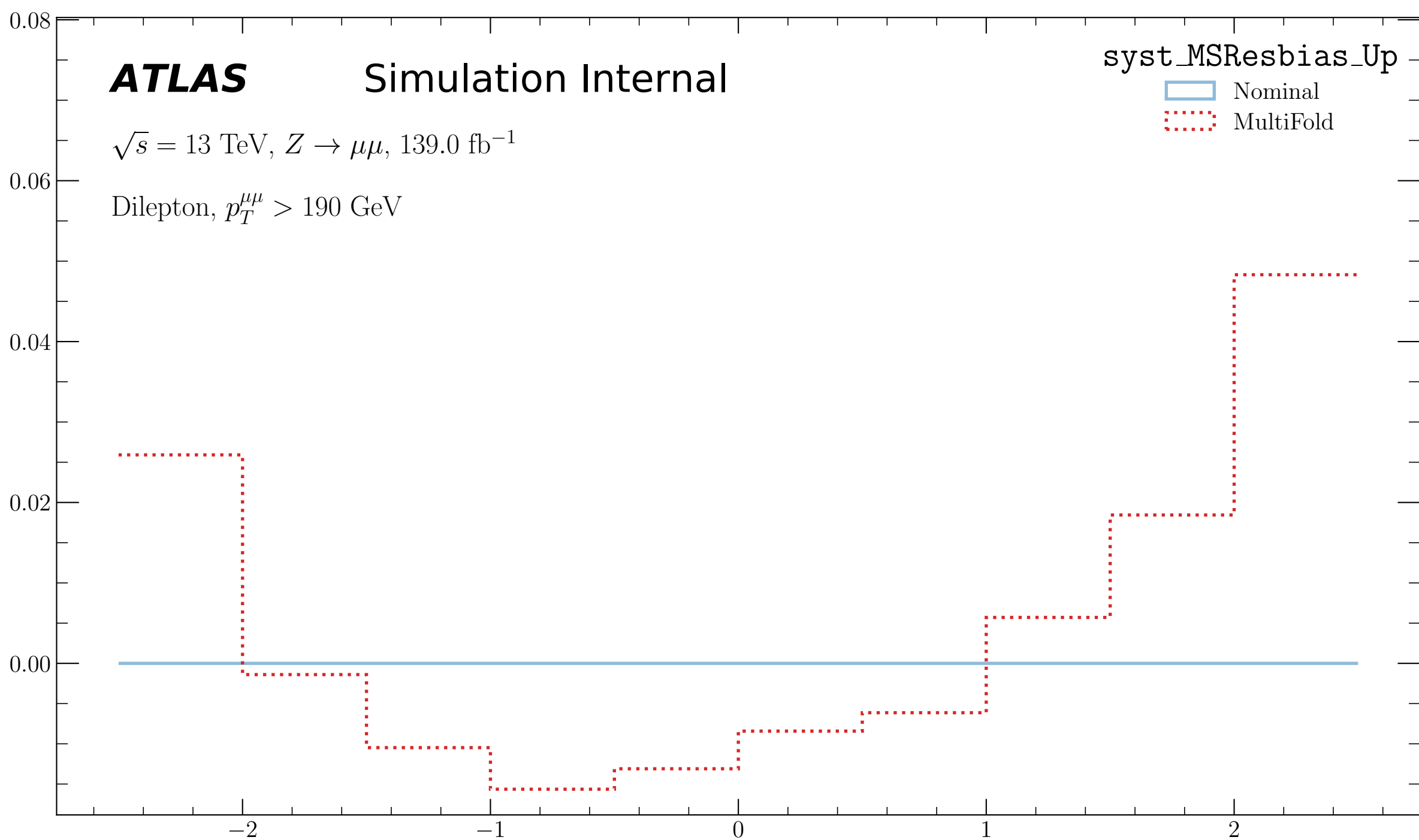
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Up

Nominal
MultiFold



Subleading track jet y

Relative Systematic Effect (MultiFold)

ATLAS

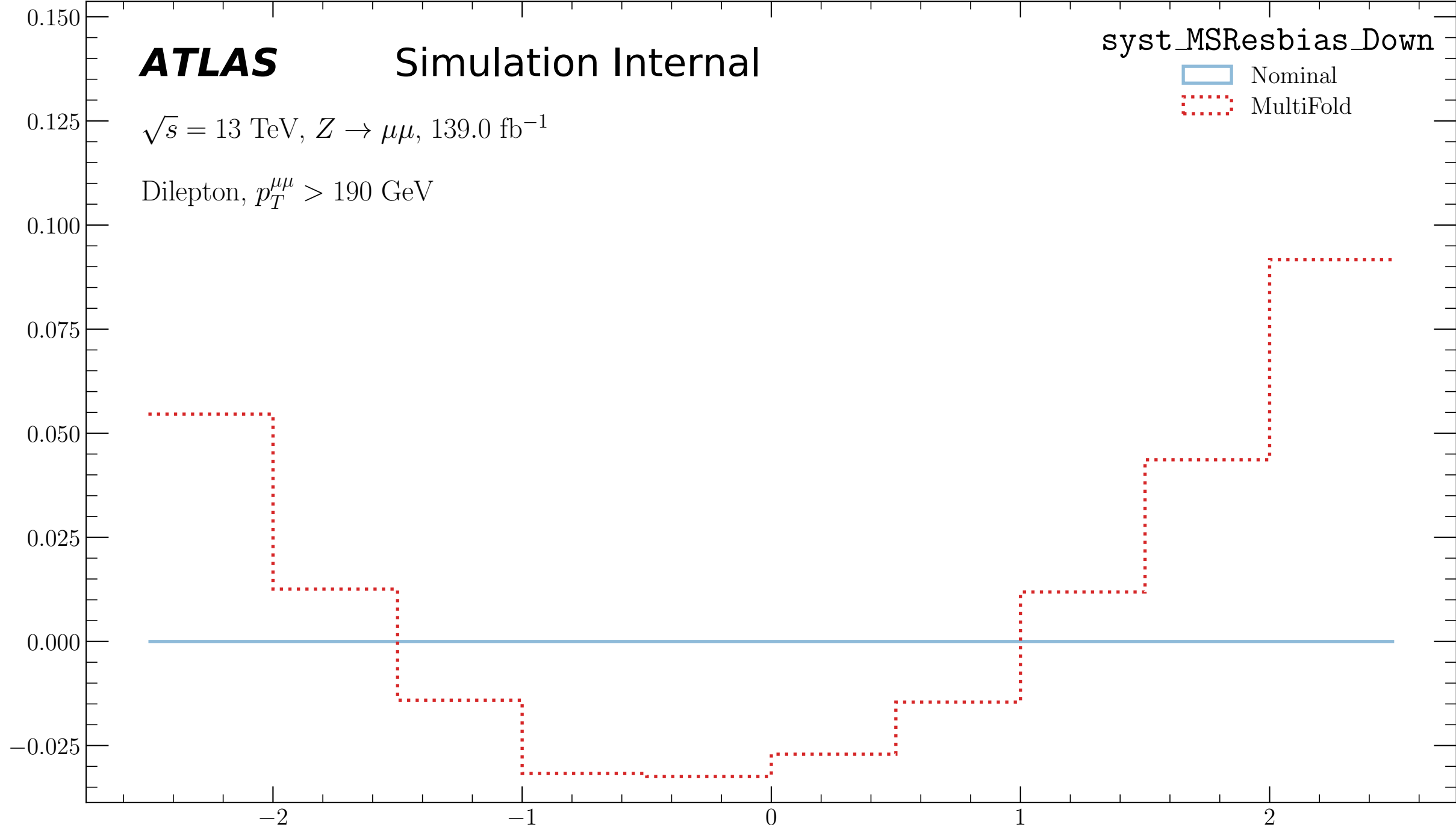
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Down

Nominal
MultiFold



Subleading track jet y

Relative Systematic Effect (MultiFold)

ATLAS

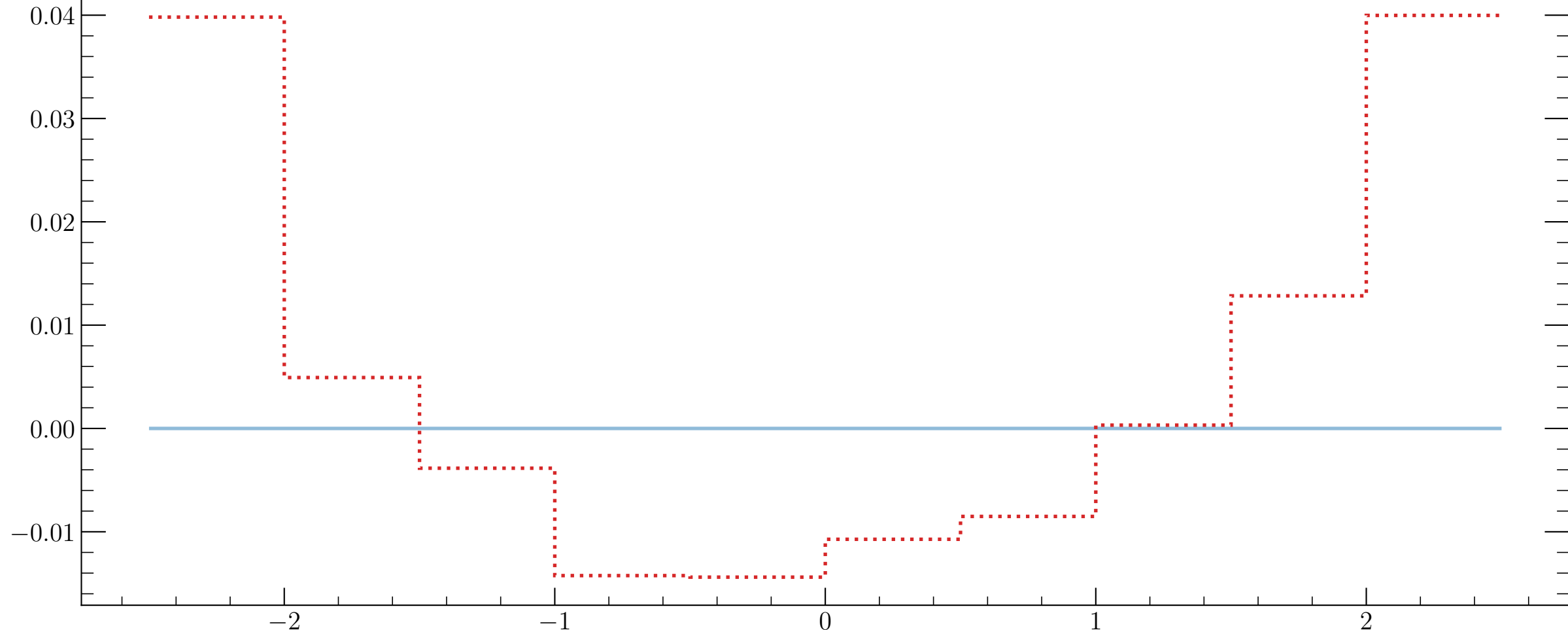
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Up

Nominal
MultiFold



Subleading track jet y

Relative Systematic Effect (MultiFold)

ATLAS

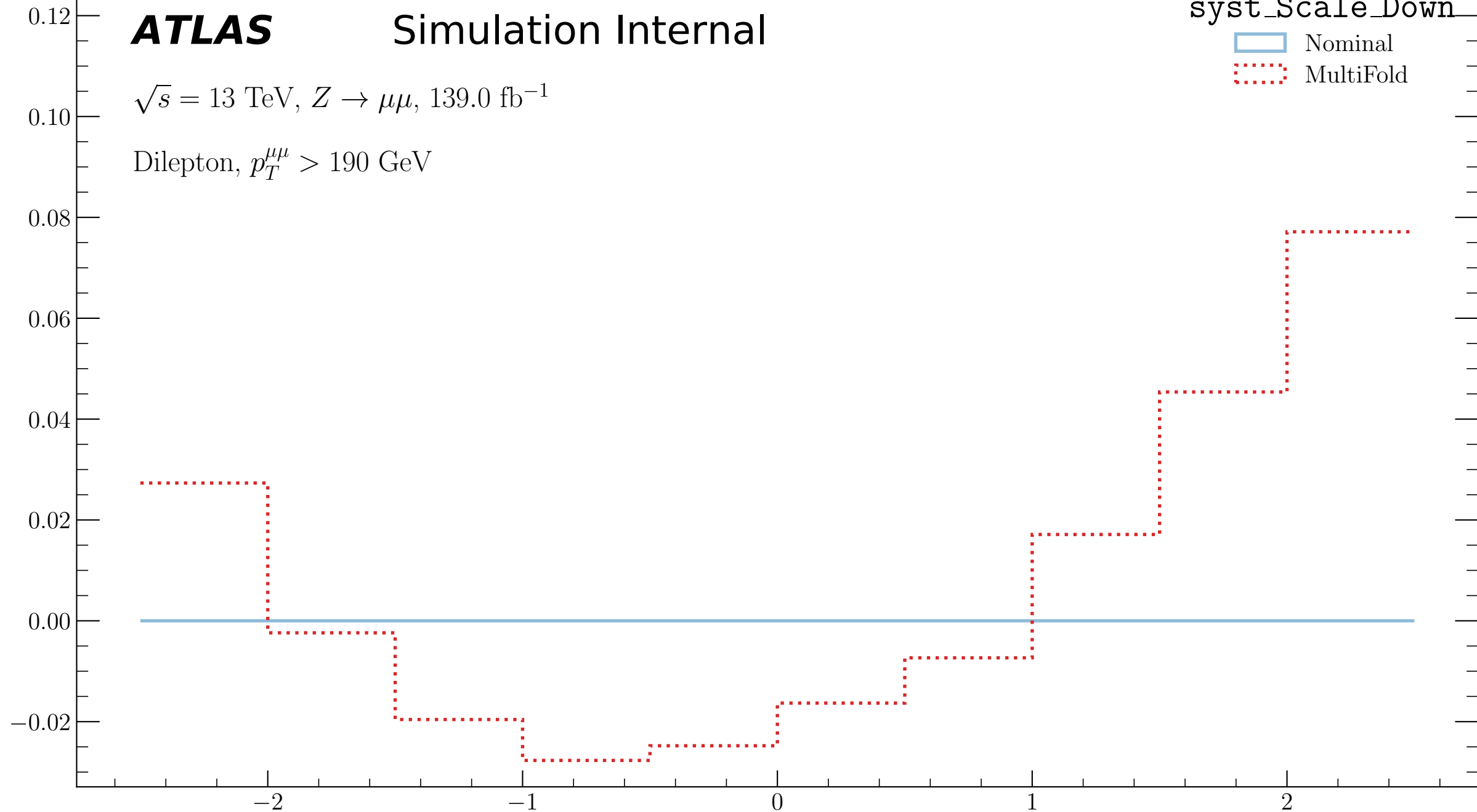
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Down

Nominal
MultiFold



Subleading track jet y

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

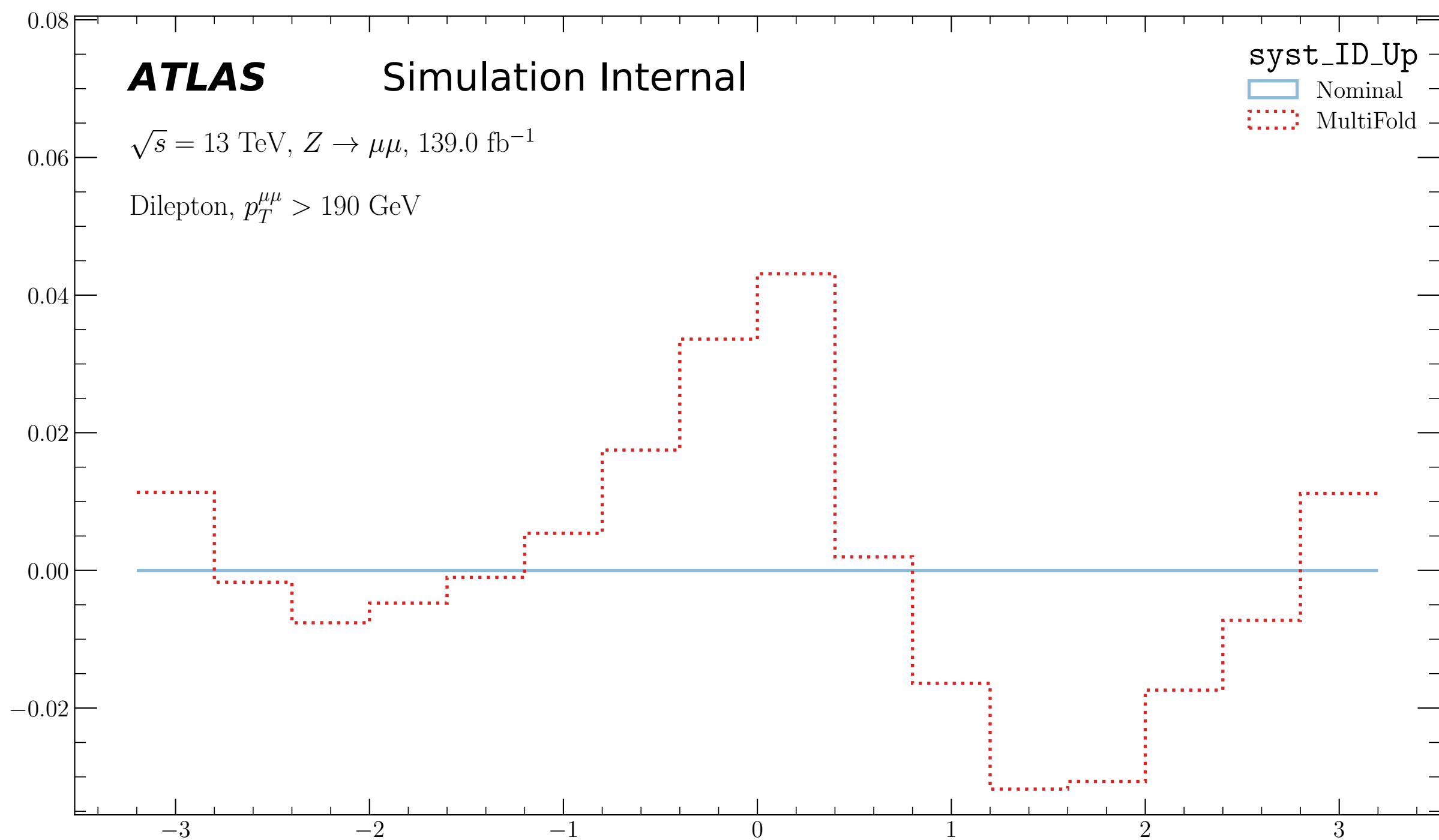
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Up

Nominal

MultiFold



Leading track jet ϕ

Relative Systematic Effect (MultiFold)

ATLAS

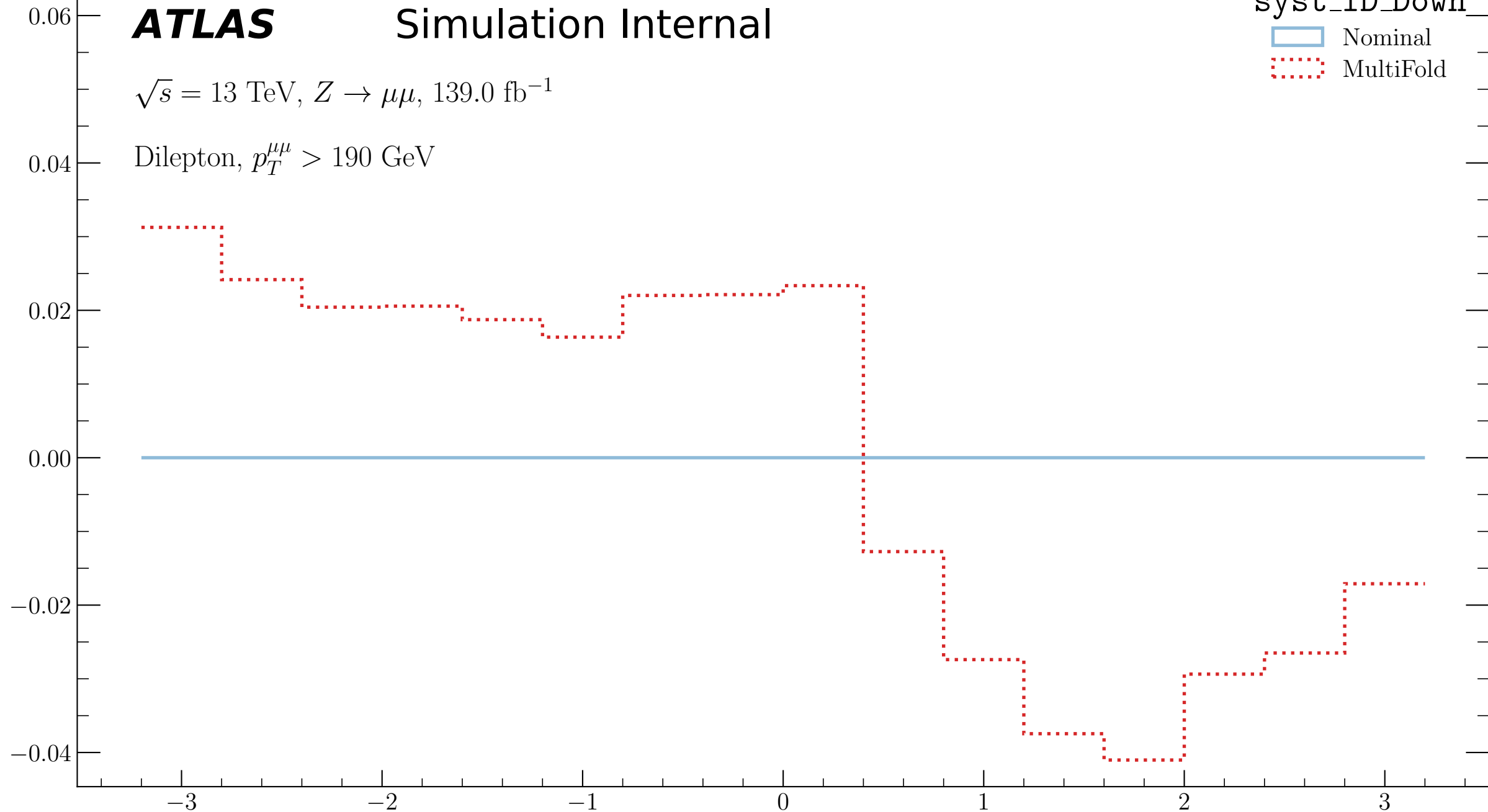
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Down

Nominal
MultiFold



Leading track jet ϕ

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

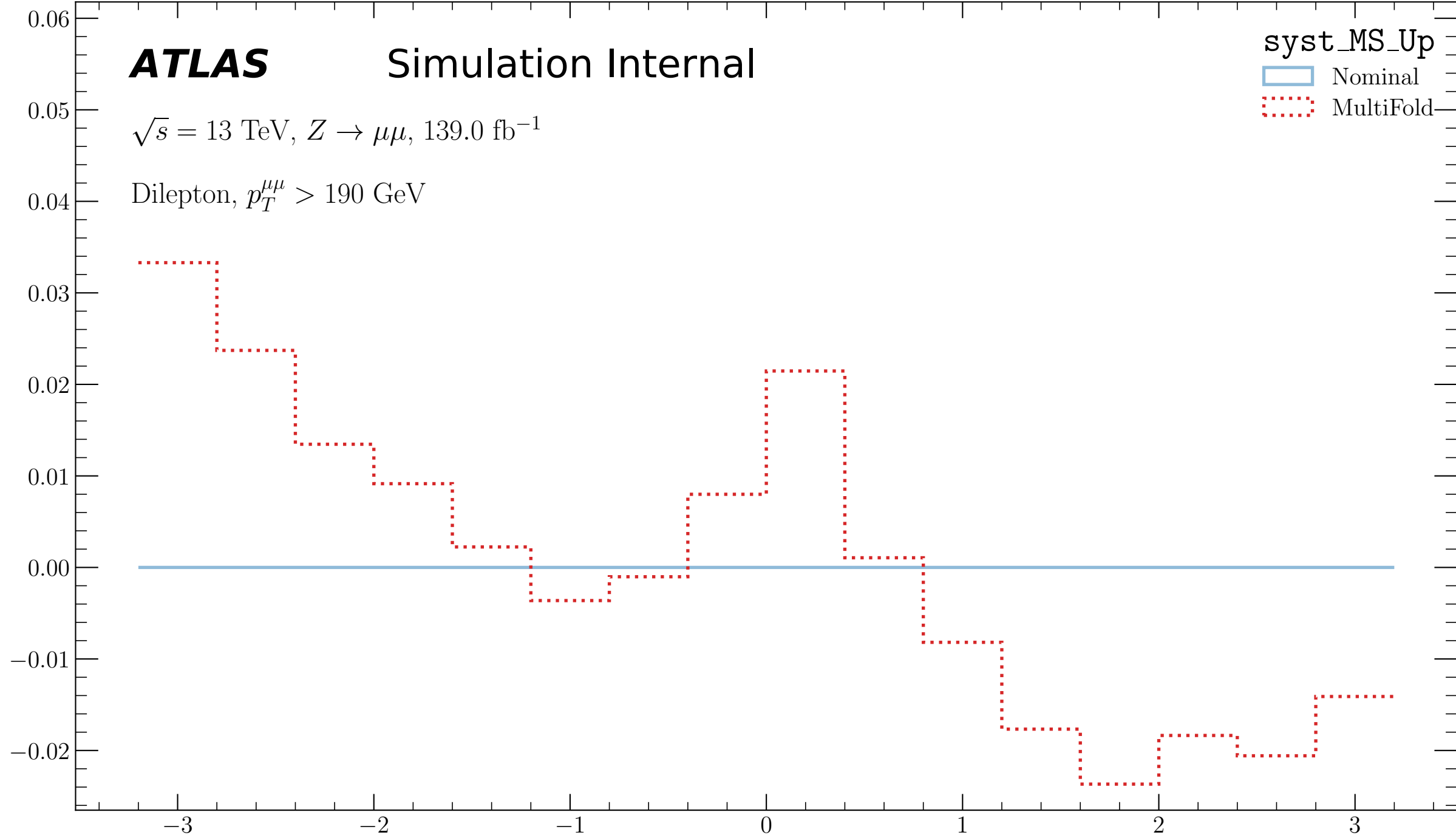
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Up

Nominal

MultiFold



Leading track jet ϕ

Relative Systematic Effect (MultiFold)

ATLAS

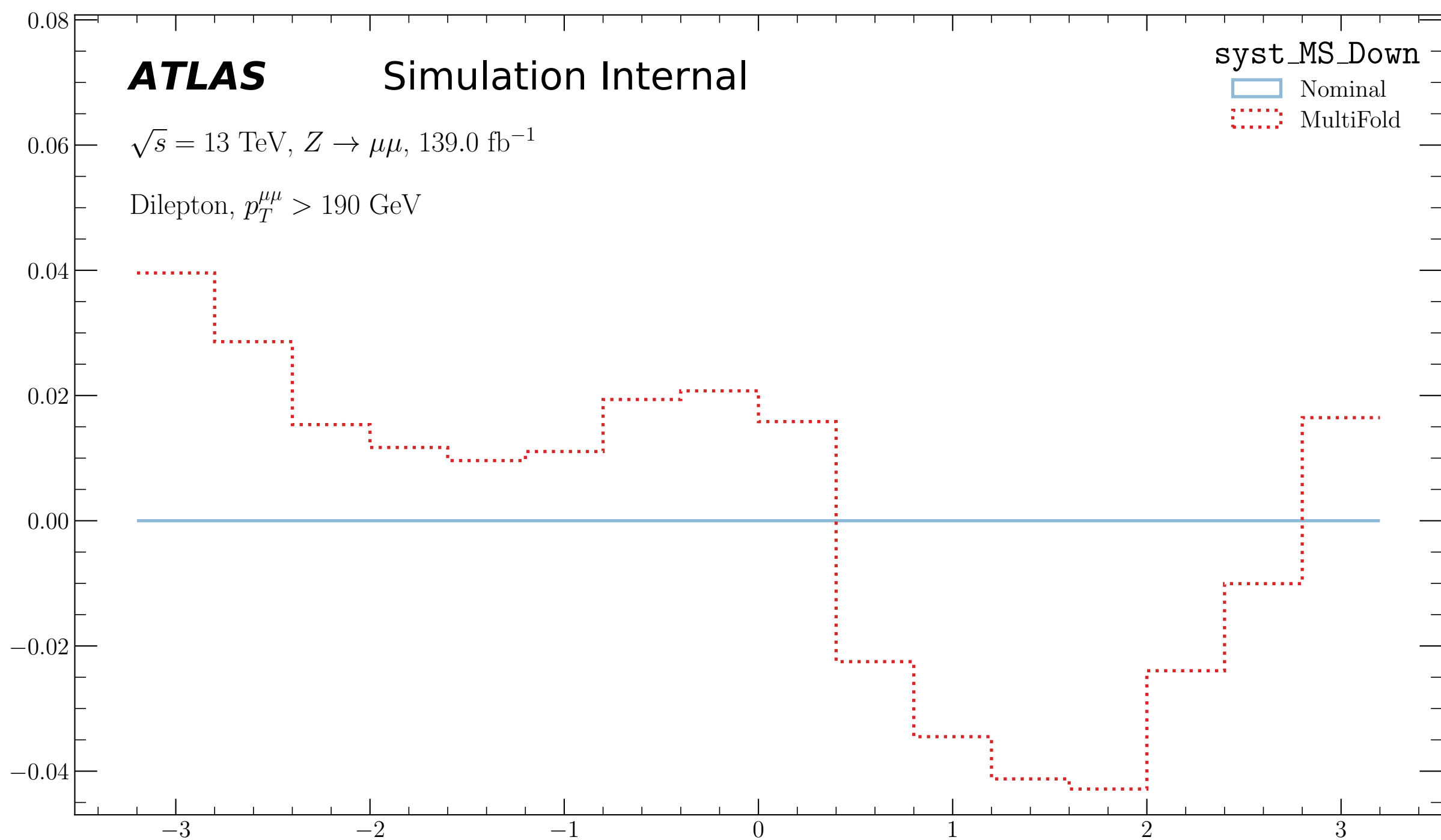
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Down

Nominal
MultiFold



Leading track jet ϕ

Relative Systematic Effect (MultiFold)

ATLAS

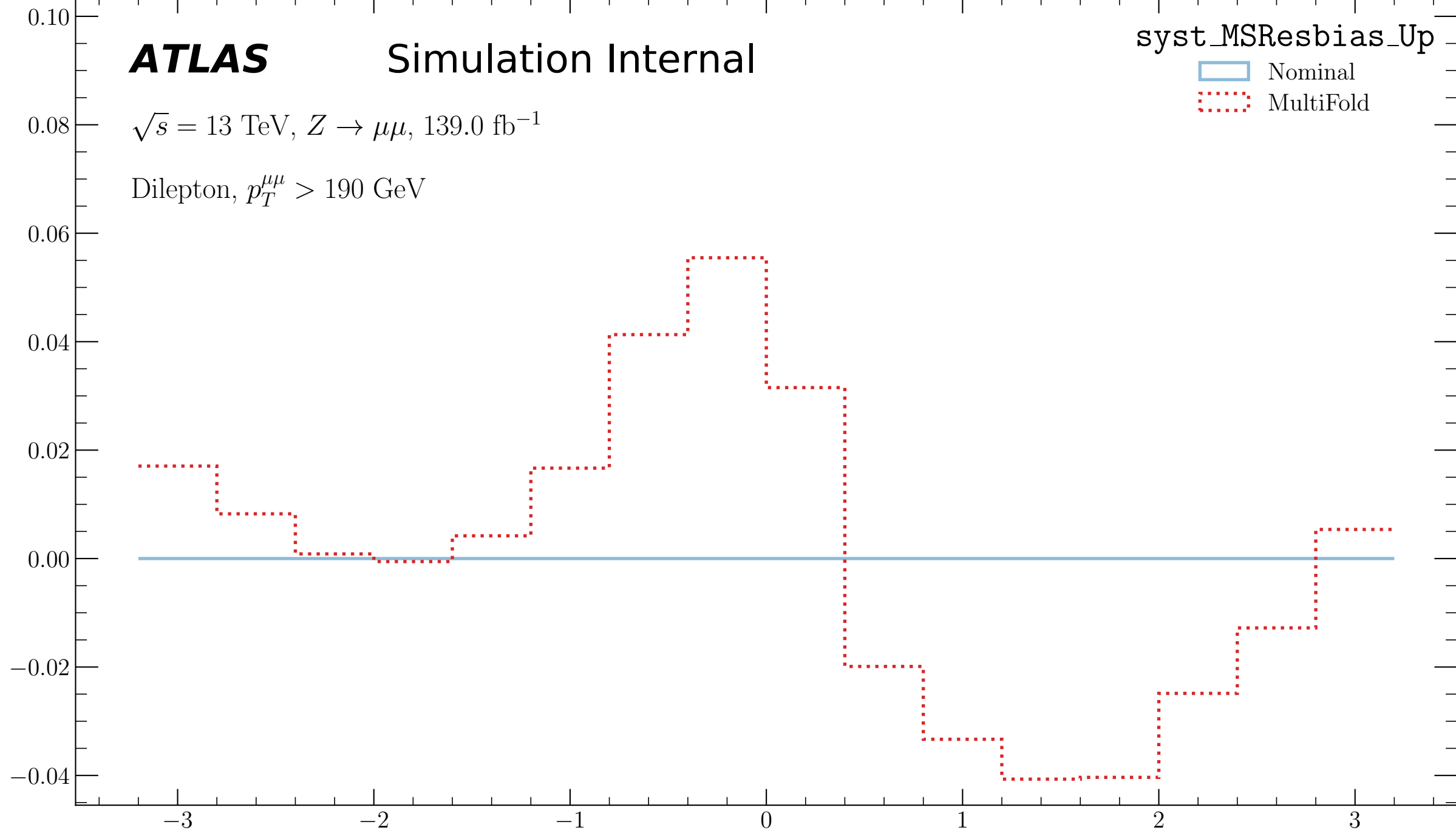
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Up

Nominal
MultiFold

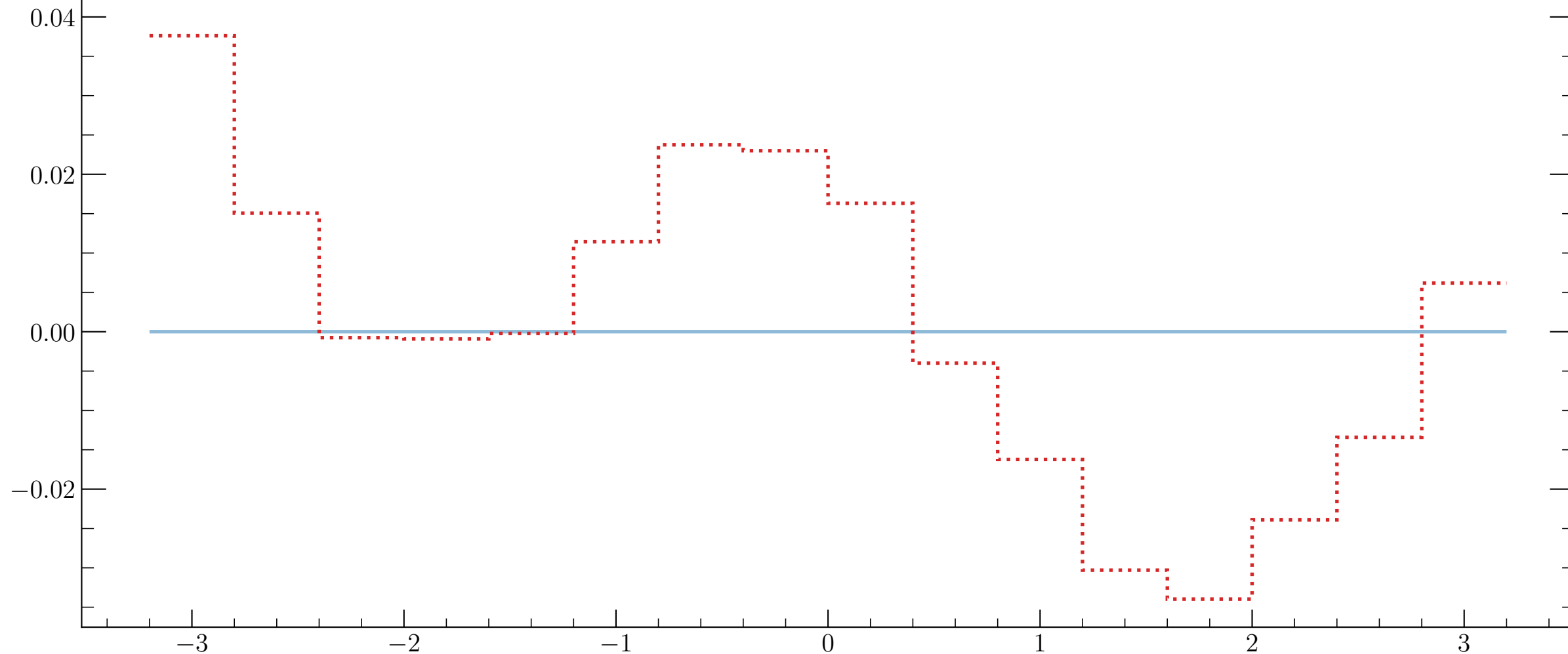


Leading track jet ϕ

ATLAS

Simulation Internal

syst_MSResbias_Down

 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$  Nominal
MultiFoldLeading track jet ϕ

Relative Systematic Effect (MultiFold)

ATLAS

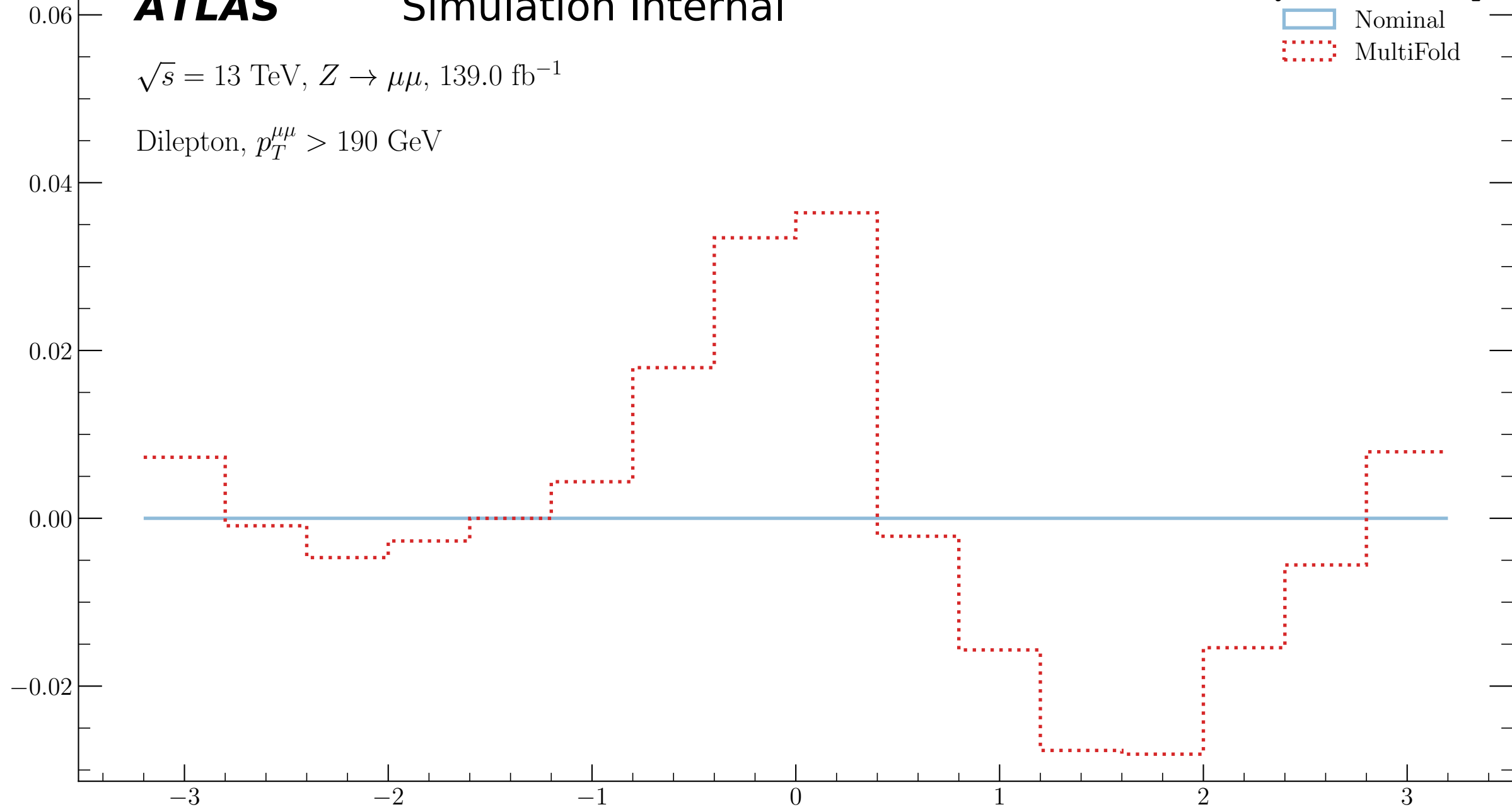
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Up

Nominal
MultiFold



Leading track jet ϕ

Relative Systematic Effect (MultiFold)

ATLAS

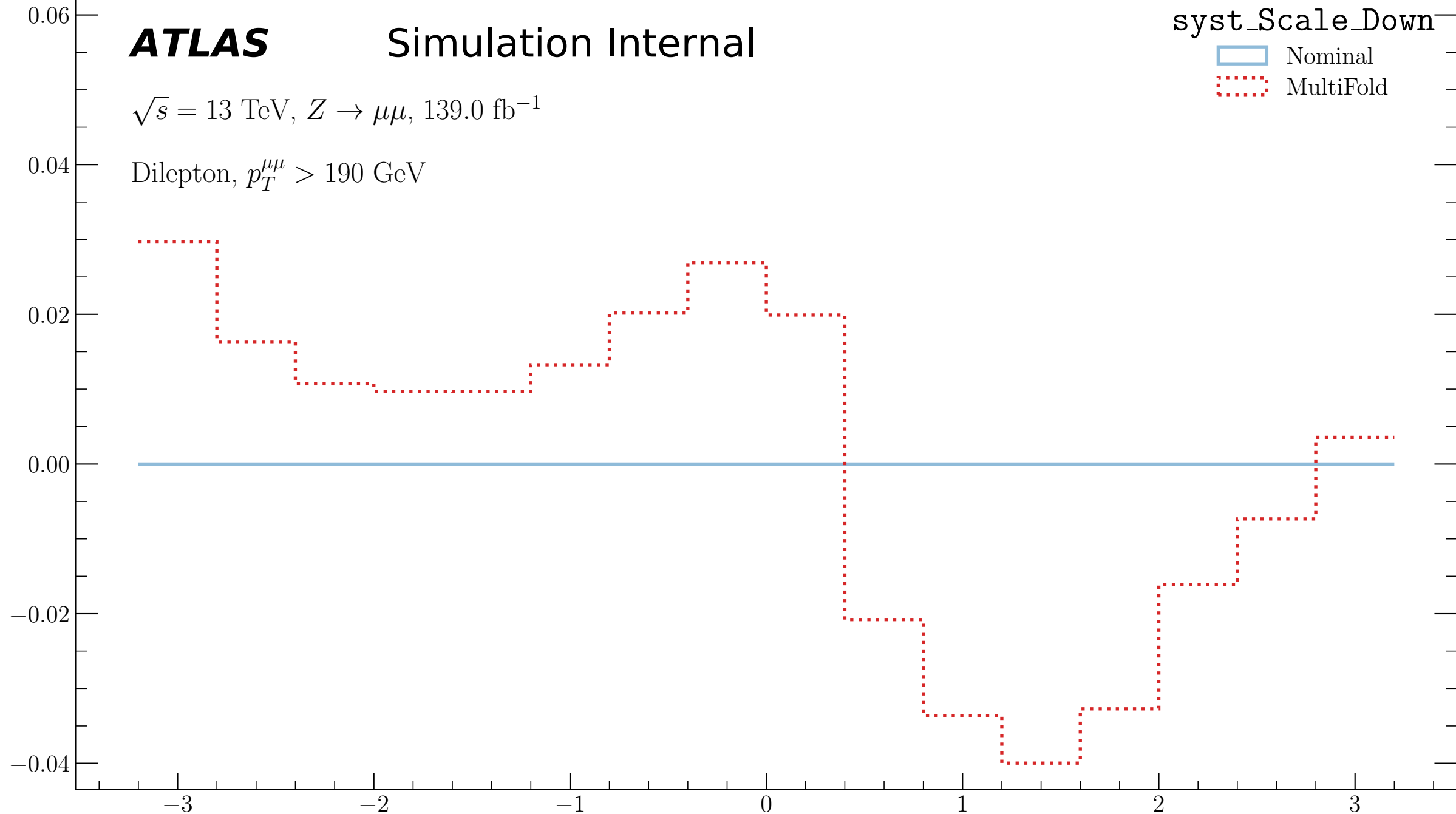
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Down

Nominal
MultiFold



Leading track jet ϕ

Relative Systematic Effect (MultiFold)

ATLAS

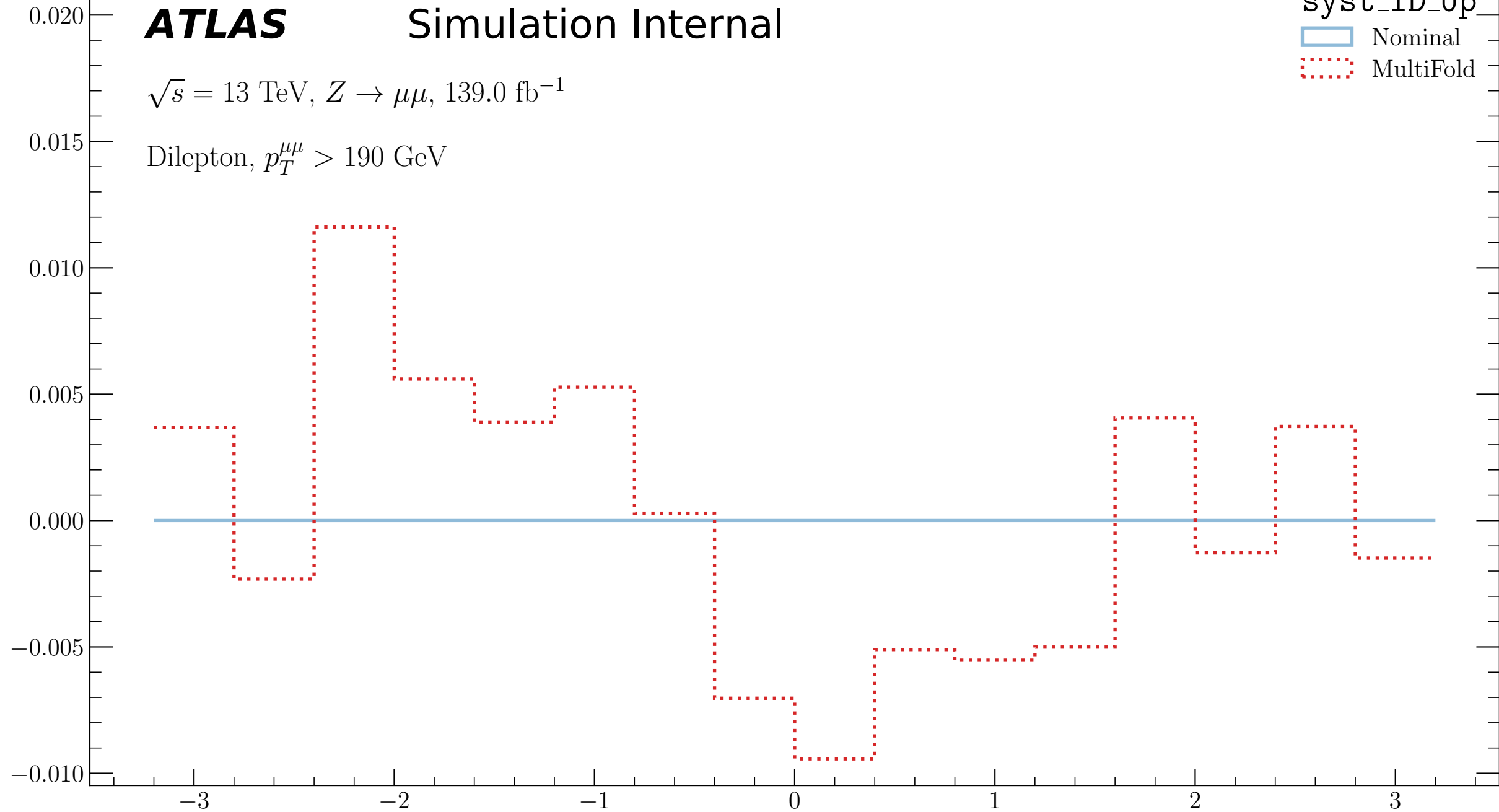
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Up

Nominal
MultiFold



Subleading track jet ϕ

Relative Systematic Effect (MultiFold)

ATLAS

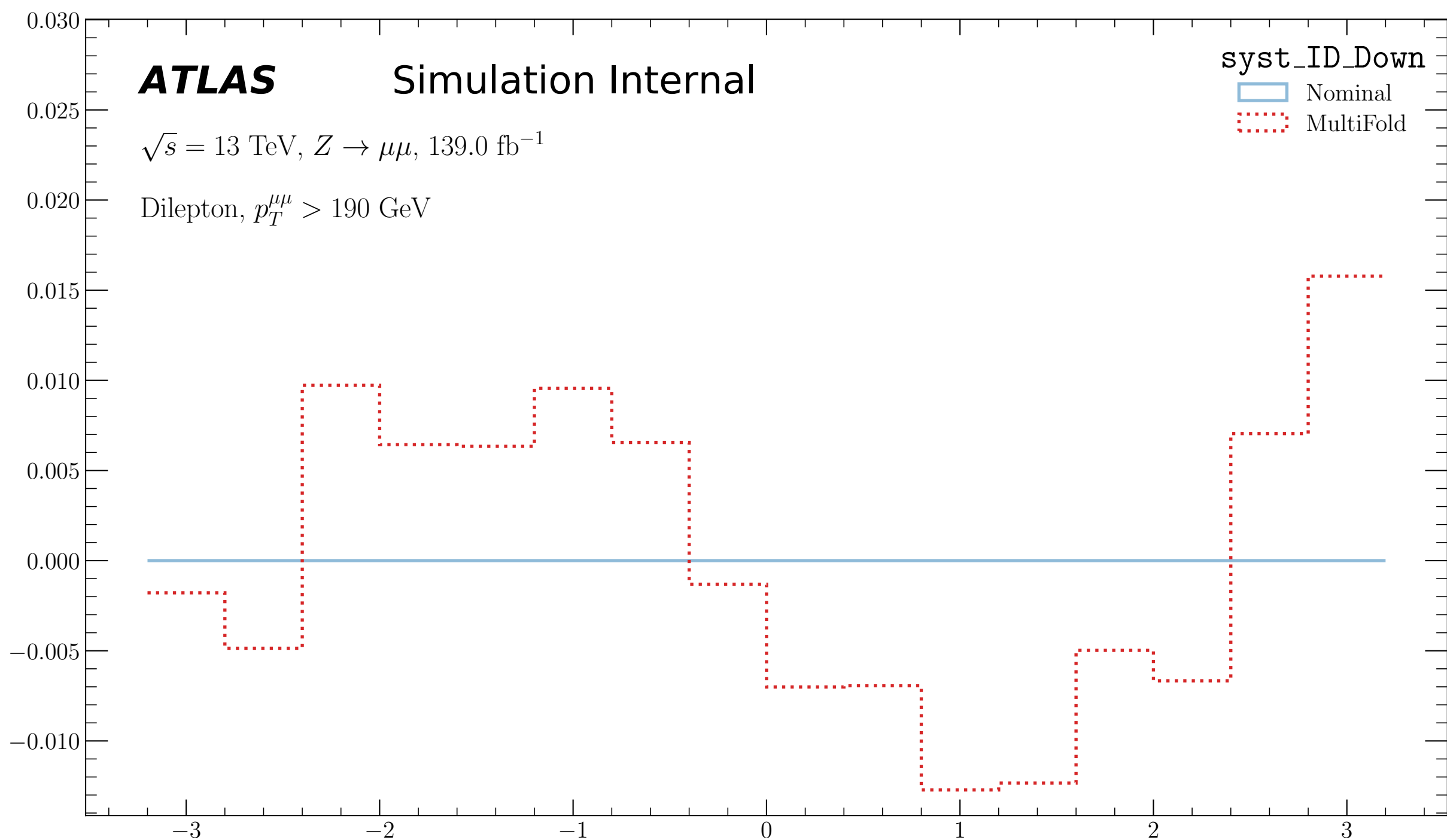
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Down

Nominal
MultiFold



Subleading track jet ϕ

ATLAS

Simulation Internal

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

syst_MS_Up

Nominal

MultiFold

0.04
0.03
0.02
0.01
0.00
-0.01

-3

-2

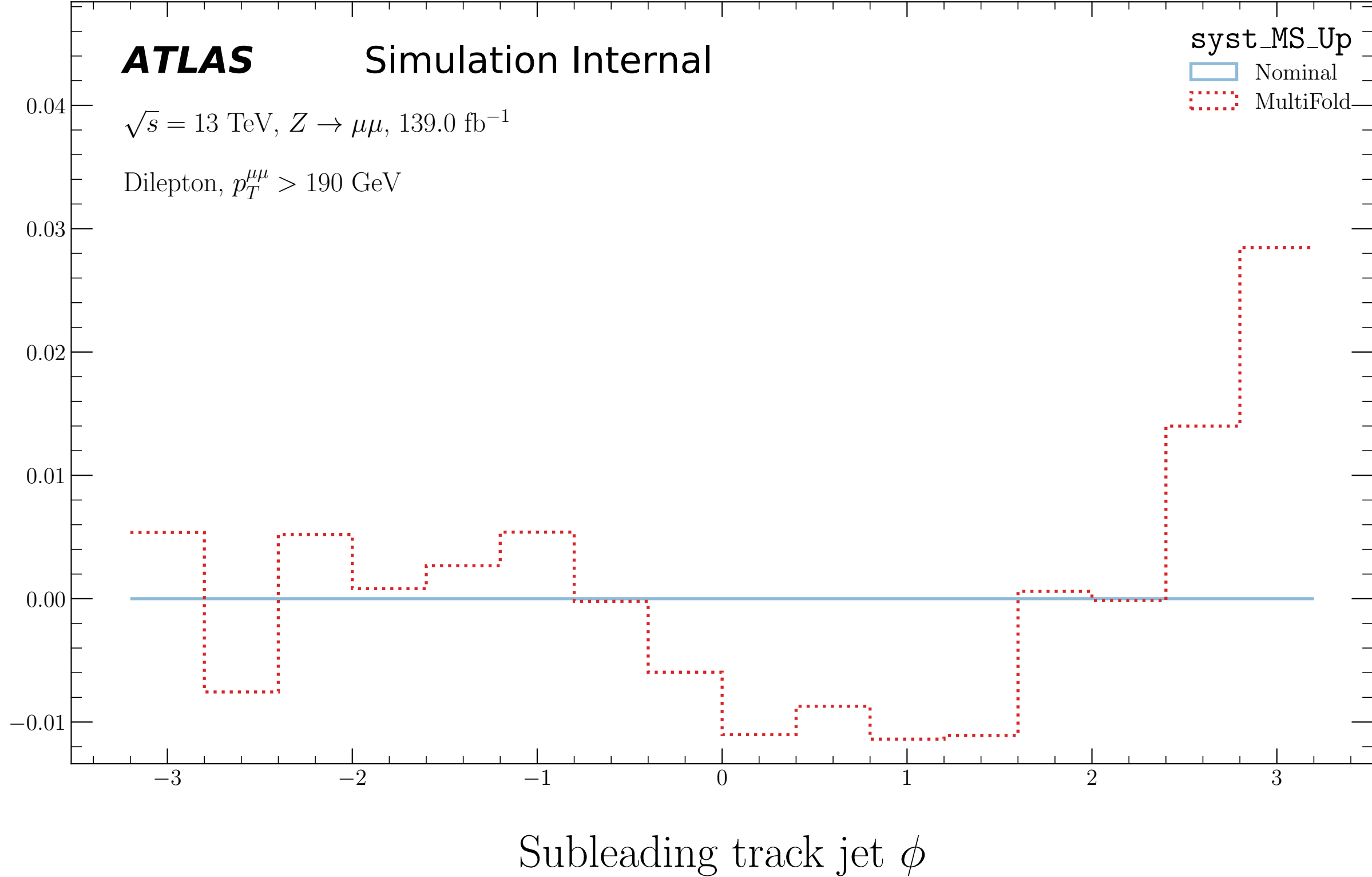
-1

0

1

2

3

Subleading track jet ϕ 

Relative Systematic Effect (MultiFold)

ATLAS

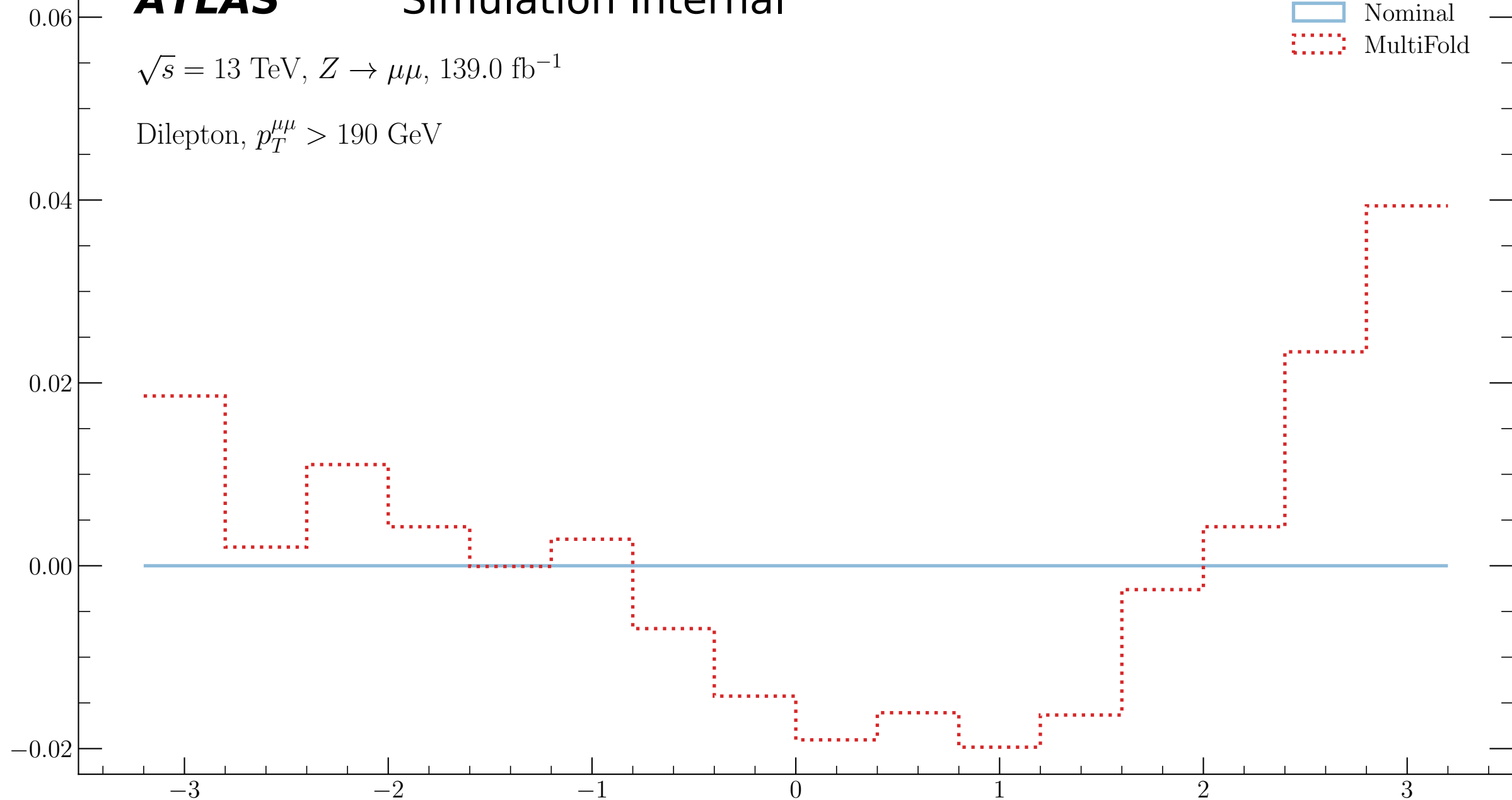
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Down

Nominal
MultiFold



Subleading track jet ϕ

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

syst_MSResbias_Up

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

Nominal
MultiFold

0.03
0.02
0.01
0.00
-0.01
-0.02

-3

-2

-1

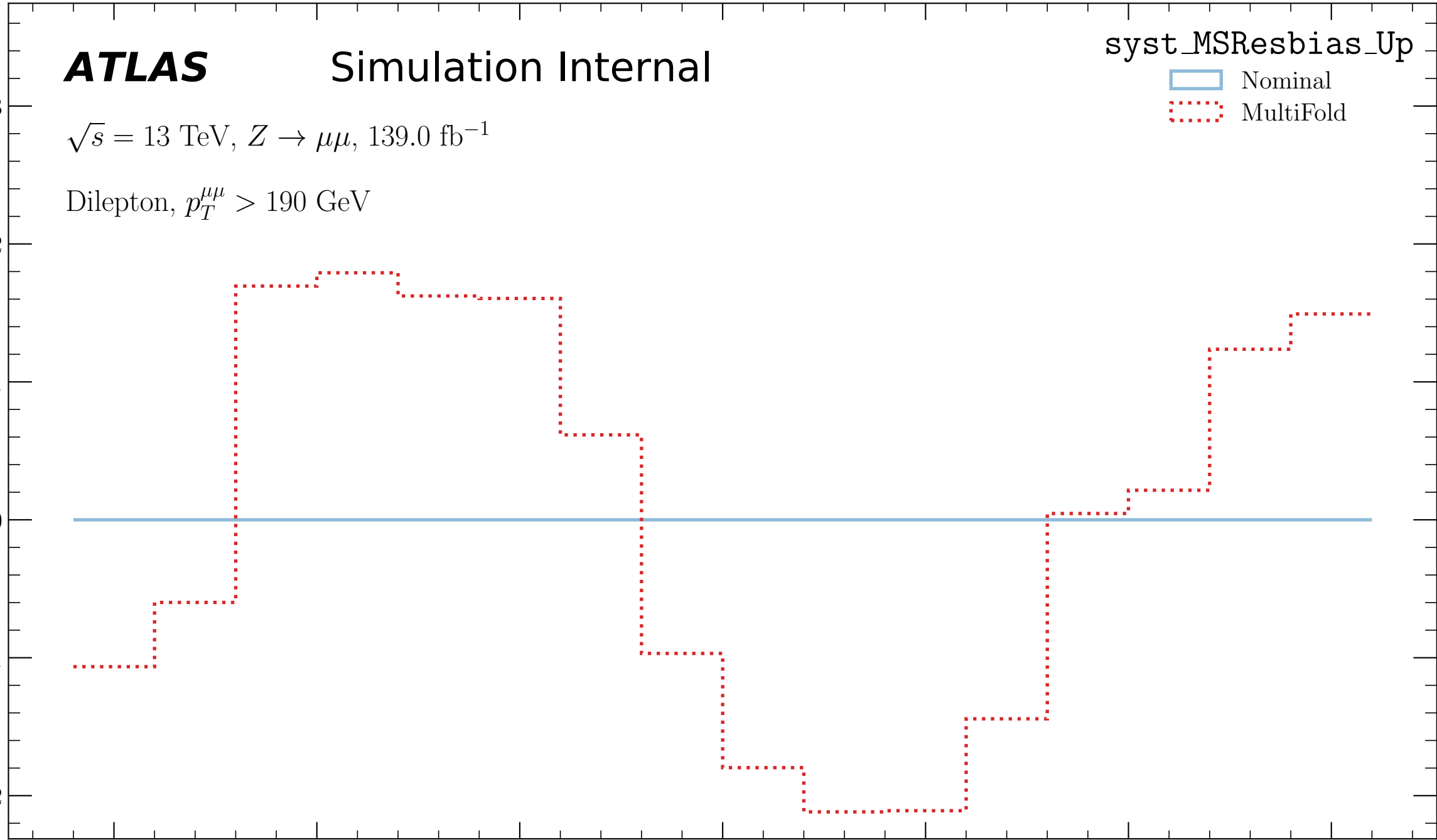
0

1

2

3

Subleading track jet ϕ



Relative Systematic Effect (MultiFold)

ATLAS

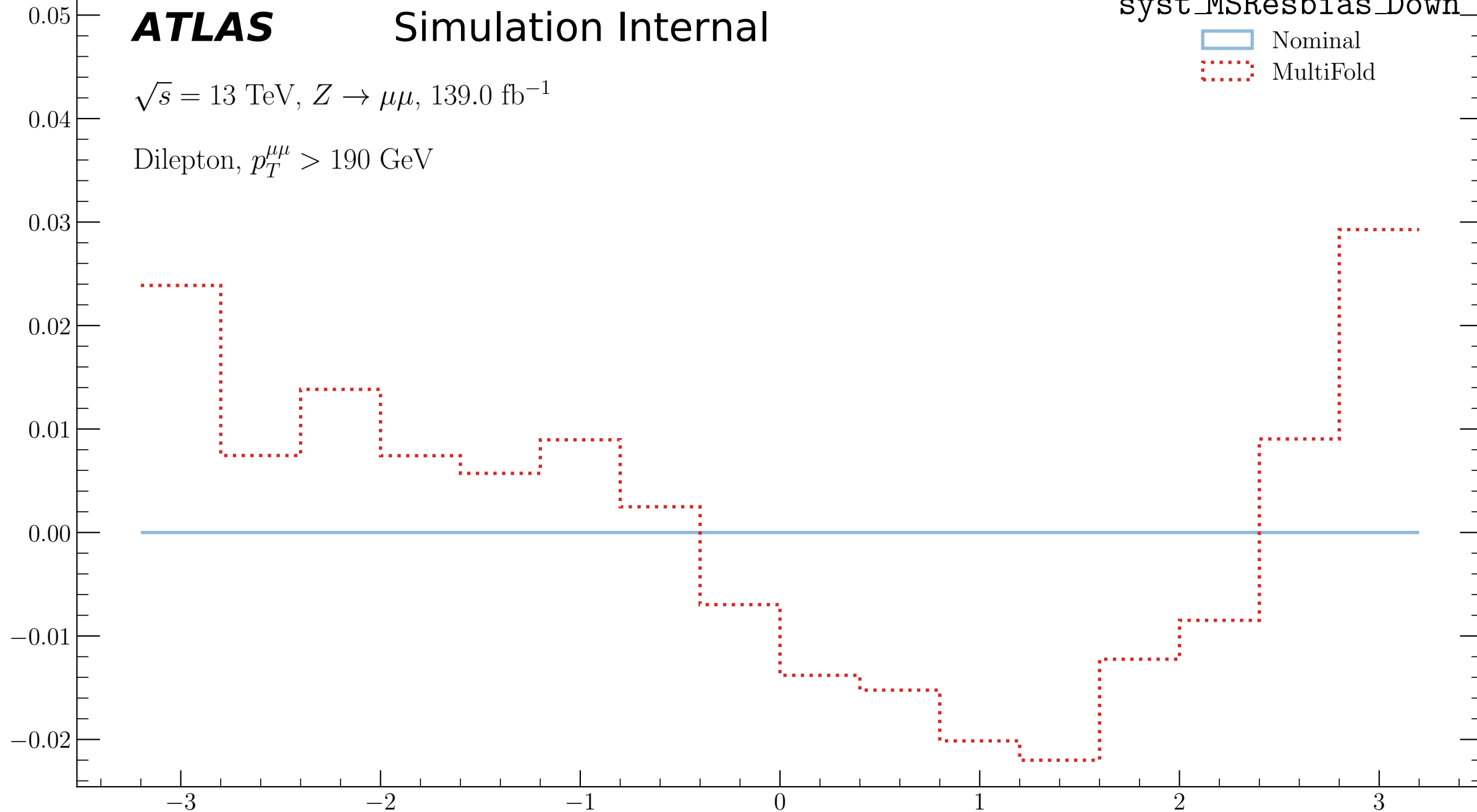
Simulation Internal

syst_MSResbias_Down

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

Nominal
MultiFold



Subleading track jet ϕ

Relative Systematic Effect (MultiFold)

ATLAS

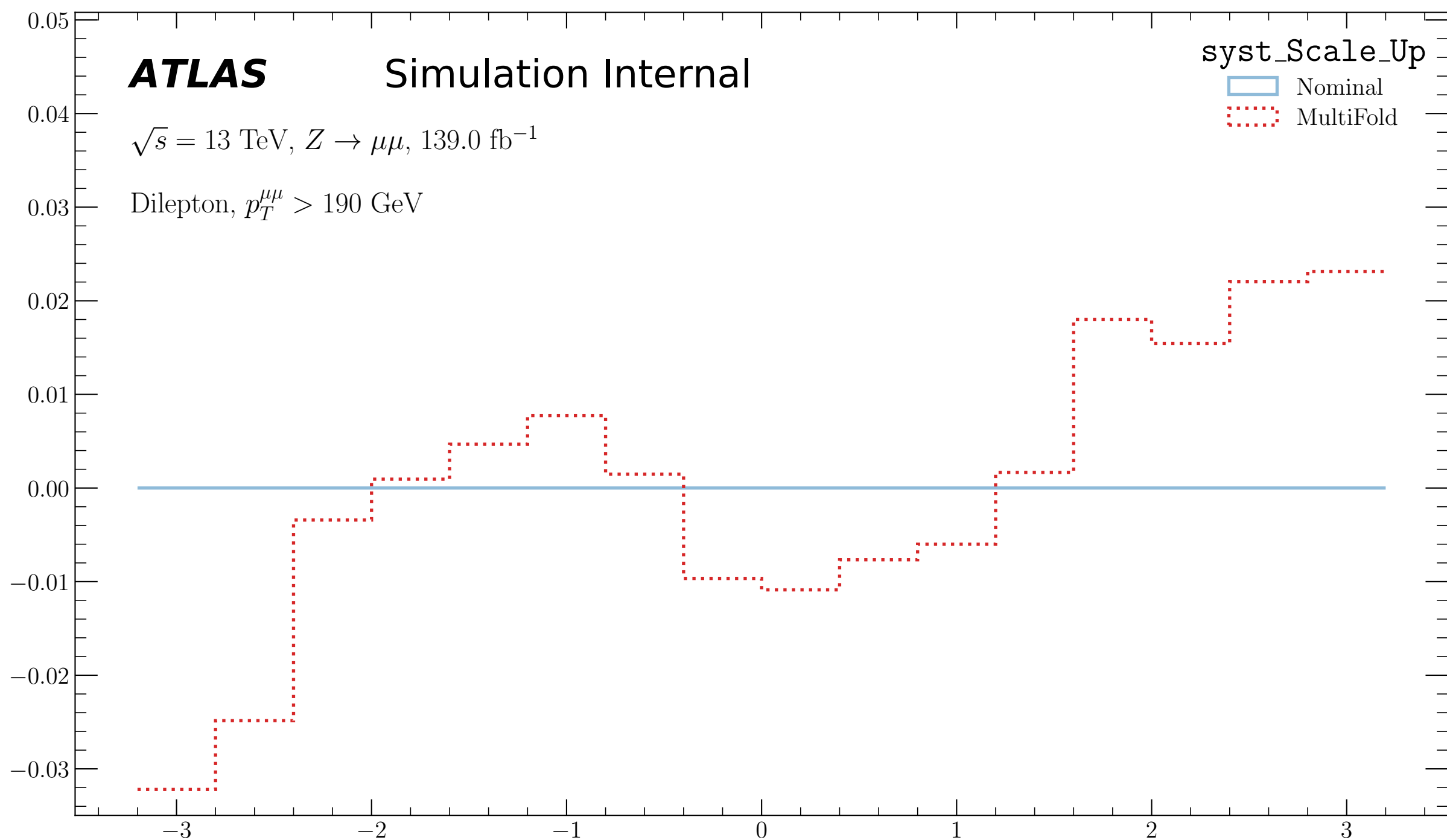
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Up

Nominal
MultiFold



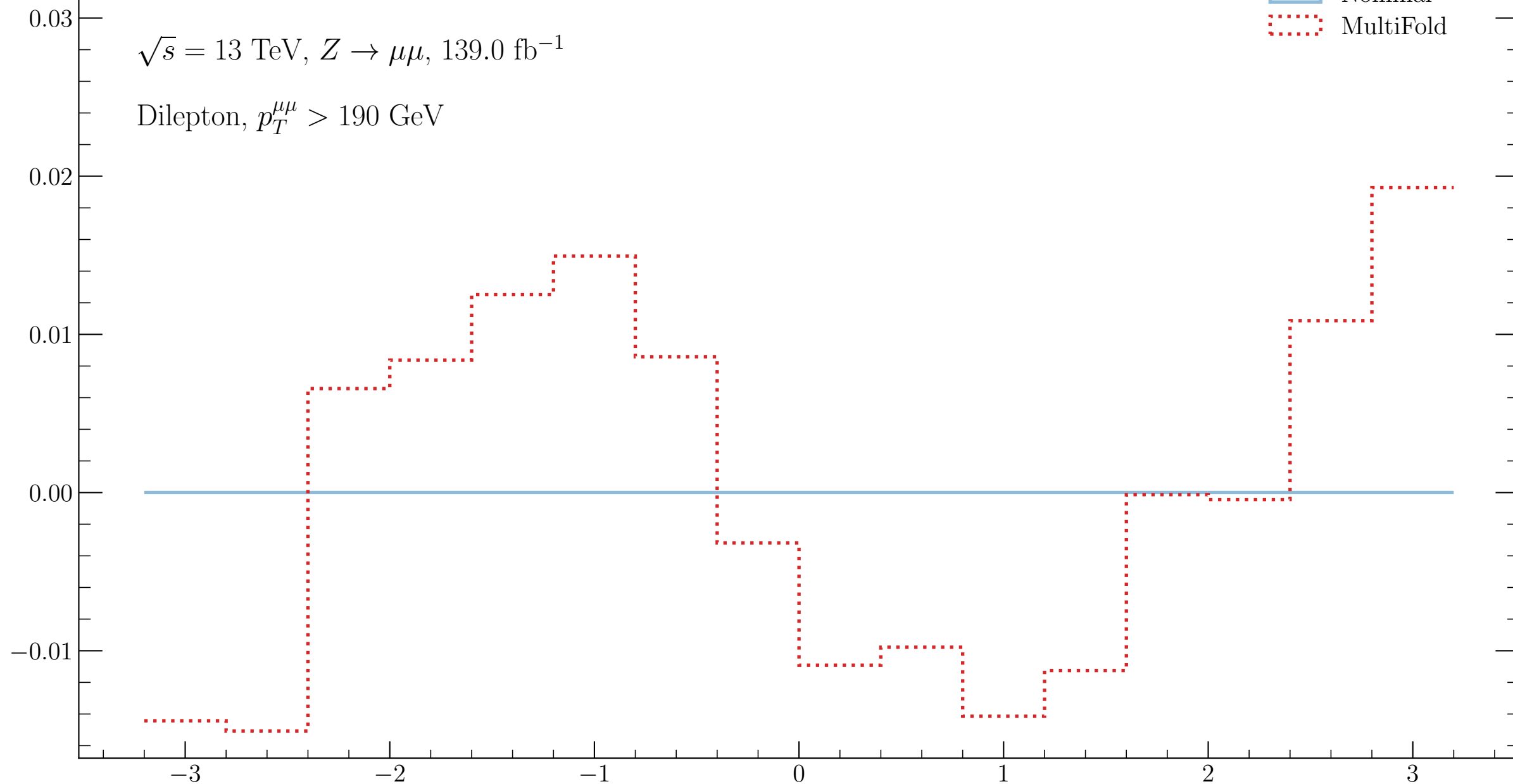
Subleading track jet ϕ

ATLAS

Simulation Internal

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

syst_Scale_Down

Nominal
MultiFoldSubleading track jet ϕ

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Up

Nominal

MultiFold

0.10

0.08

0.06

0.04

0.02

0.00

0.0

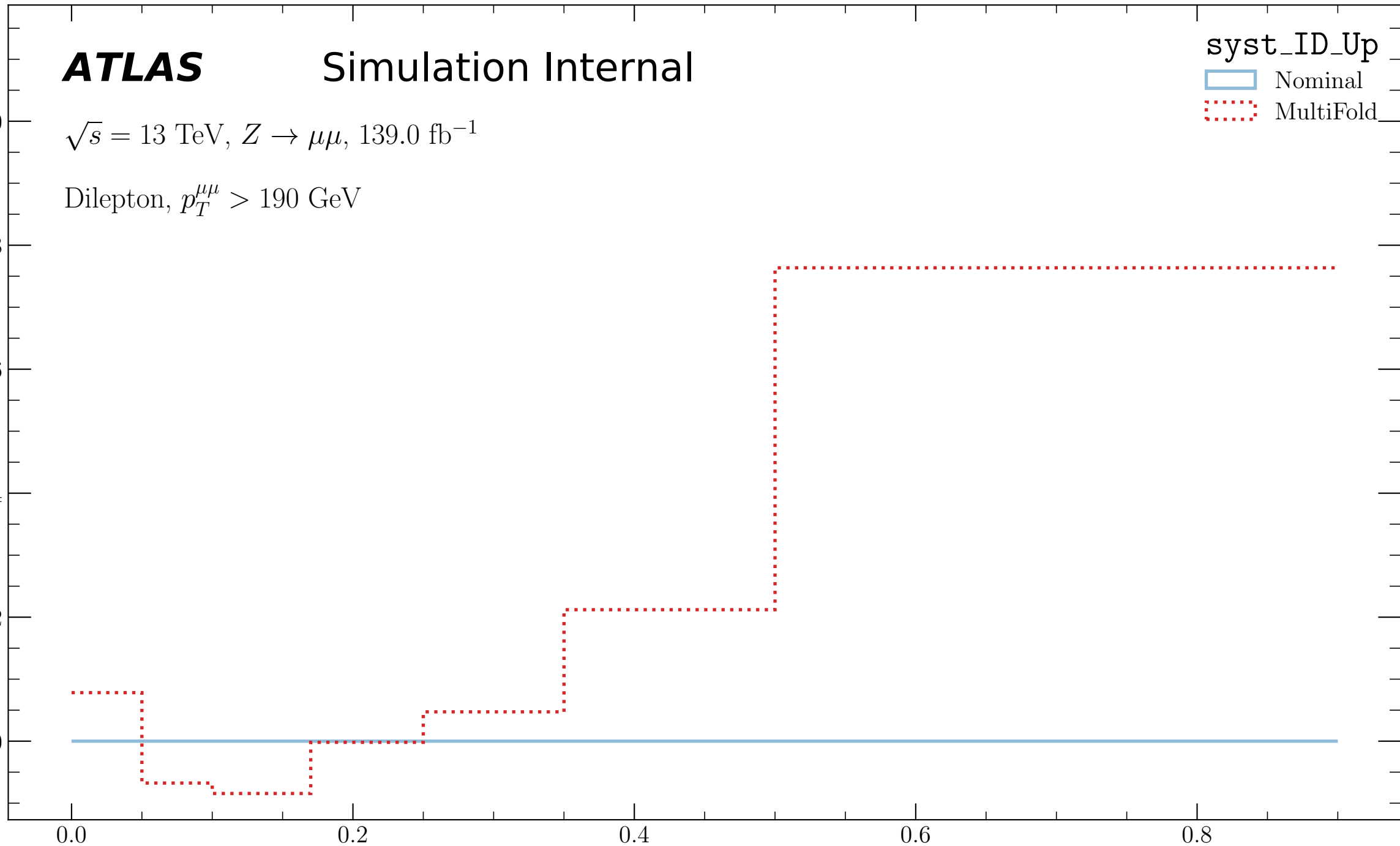
0.2

0.4

0.6

0.8

Leading track jet τ_1



Relative Systematic Effect (MultiFold)

ATLAS

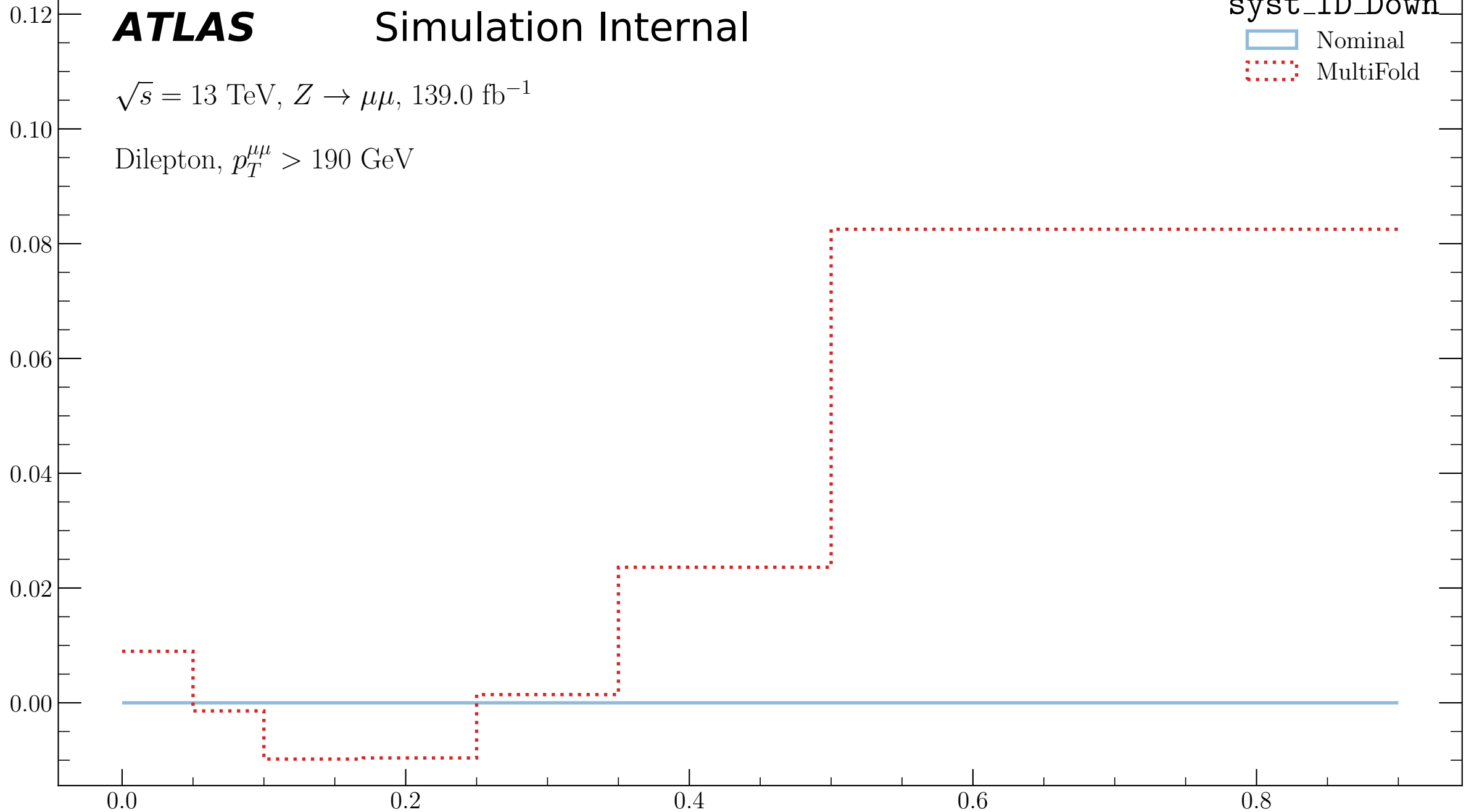
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Down

Nominal
MultiFold



Leading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

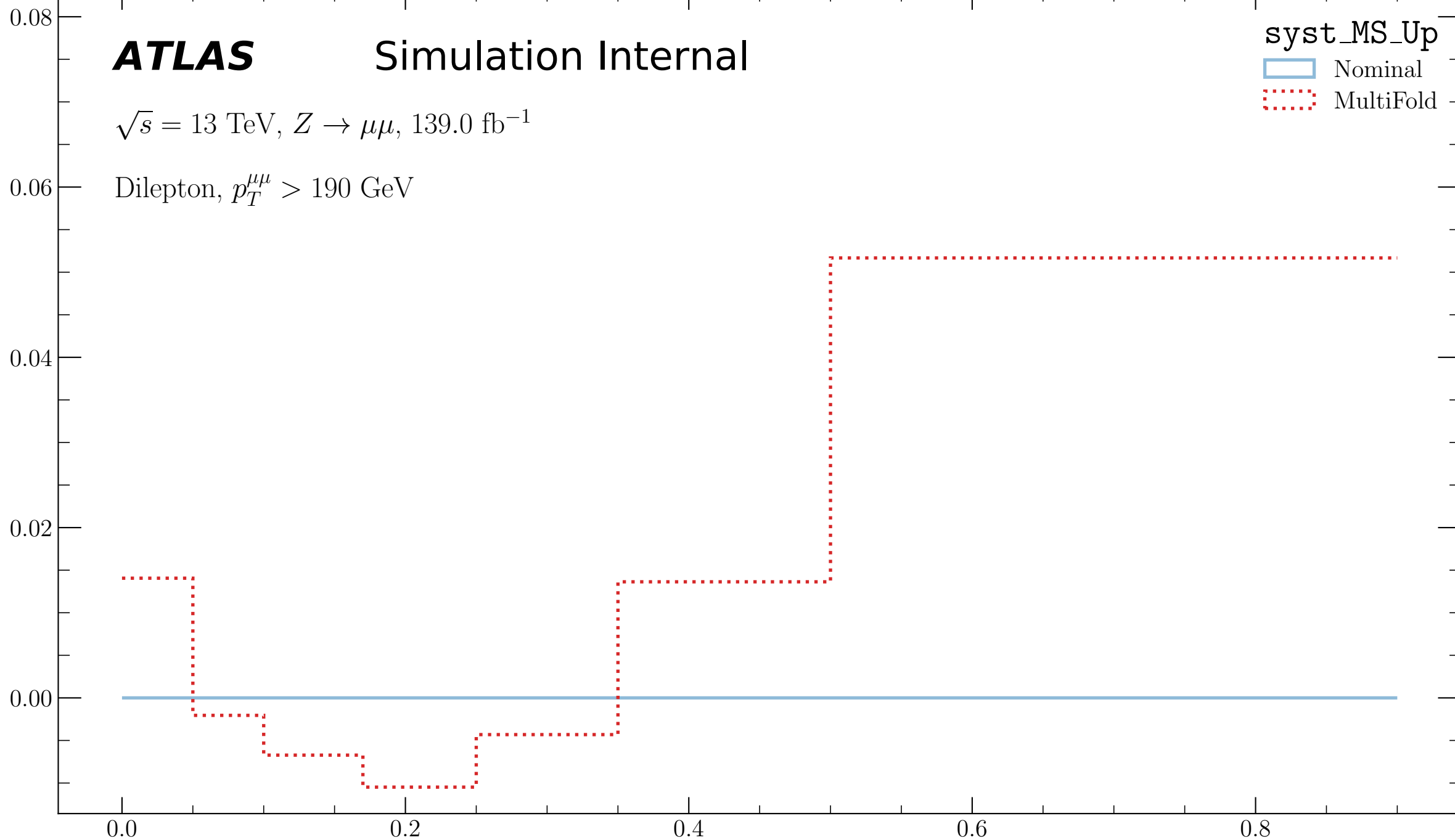
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Up

Nominal

MultiFold



Leading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

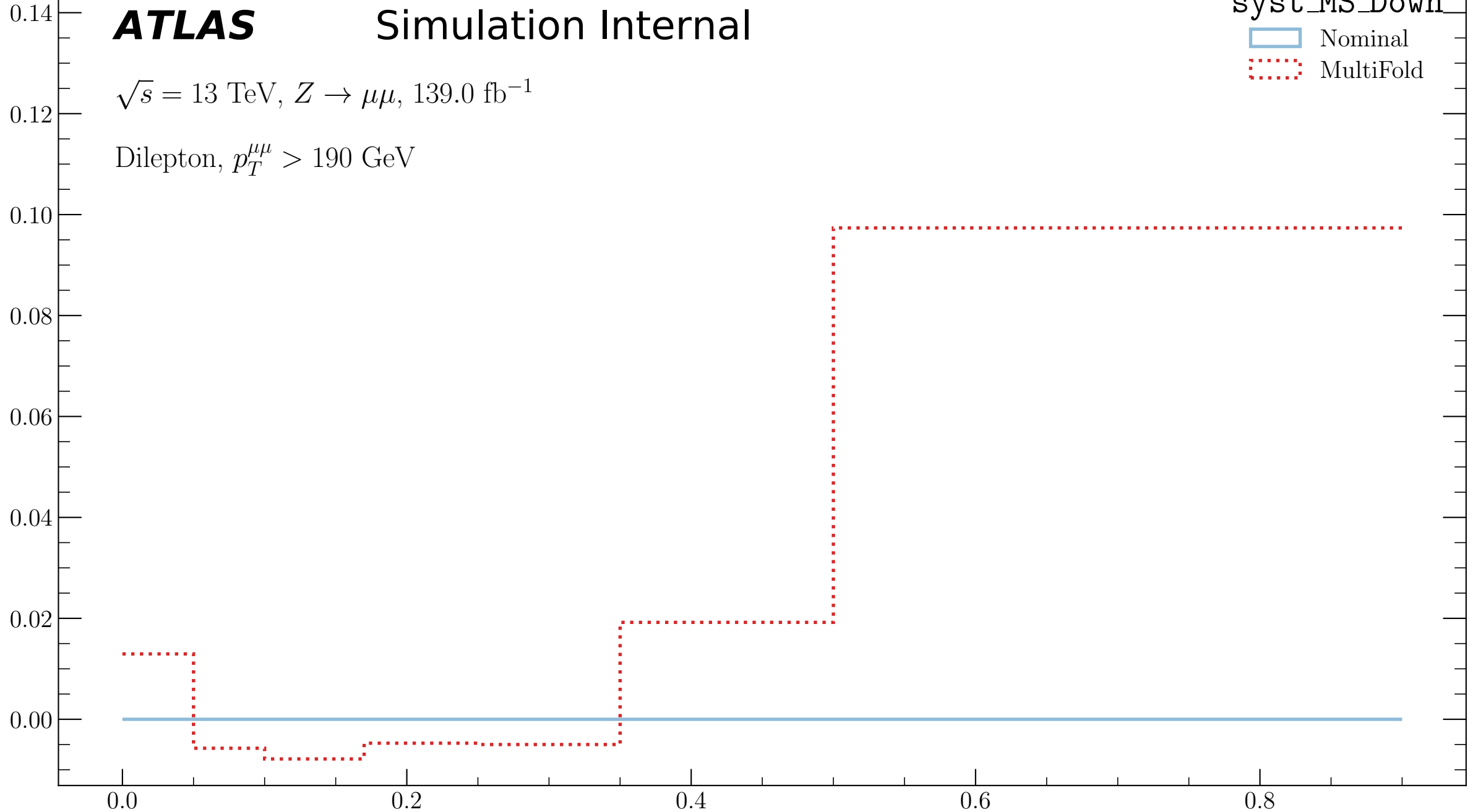
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Down

Nominal
MultiFold



Leading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

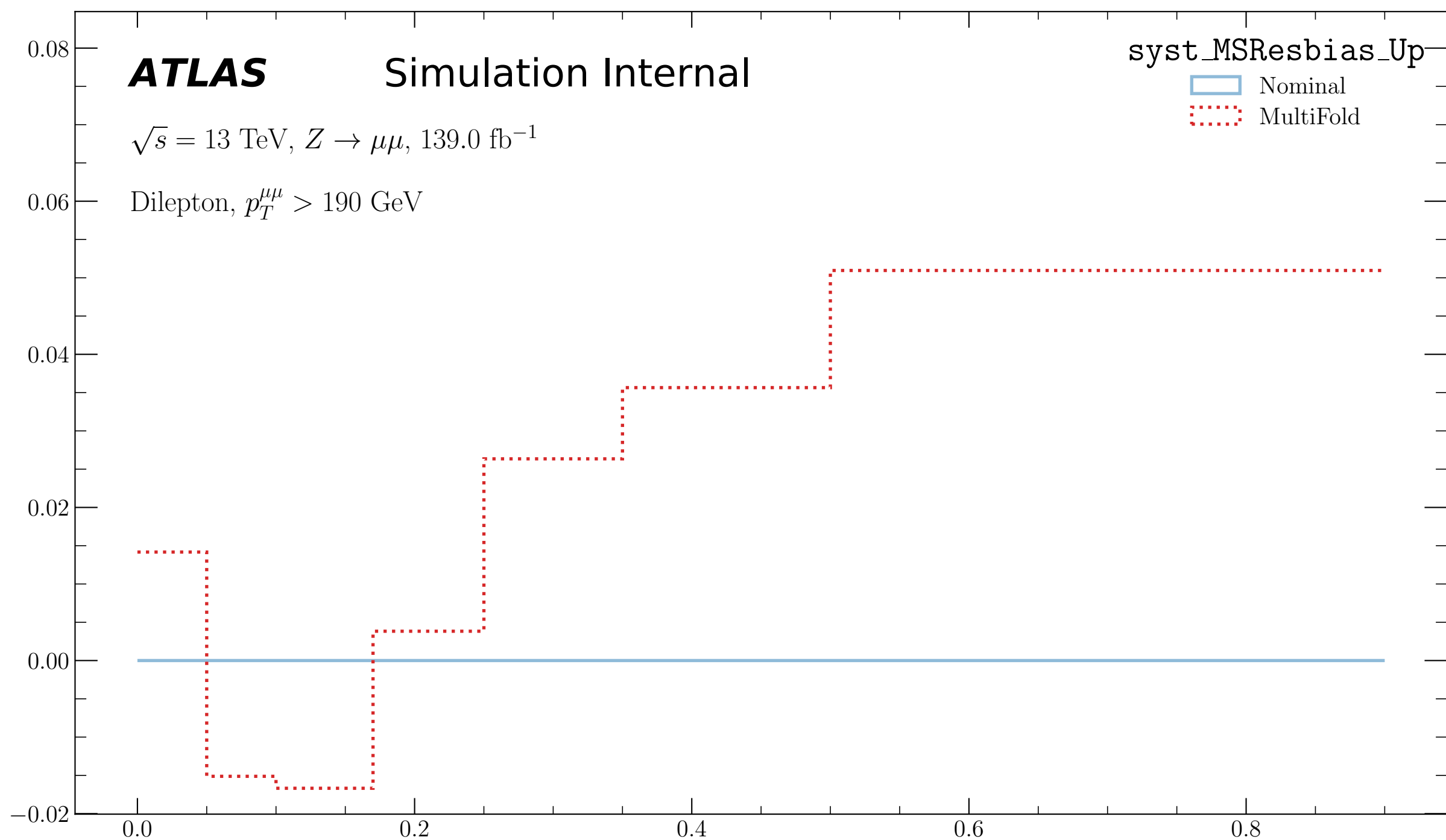
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Up

Nominal
MultiFold



Leading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

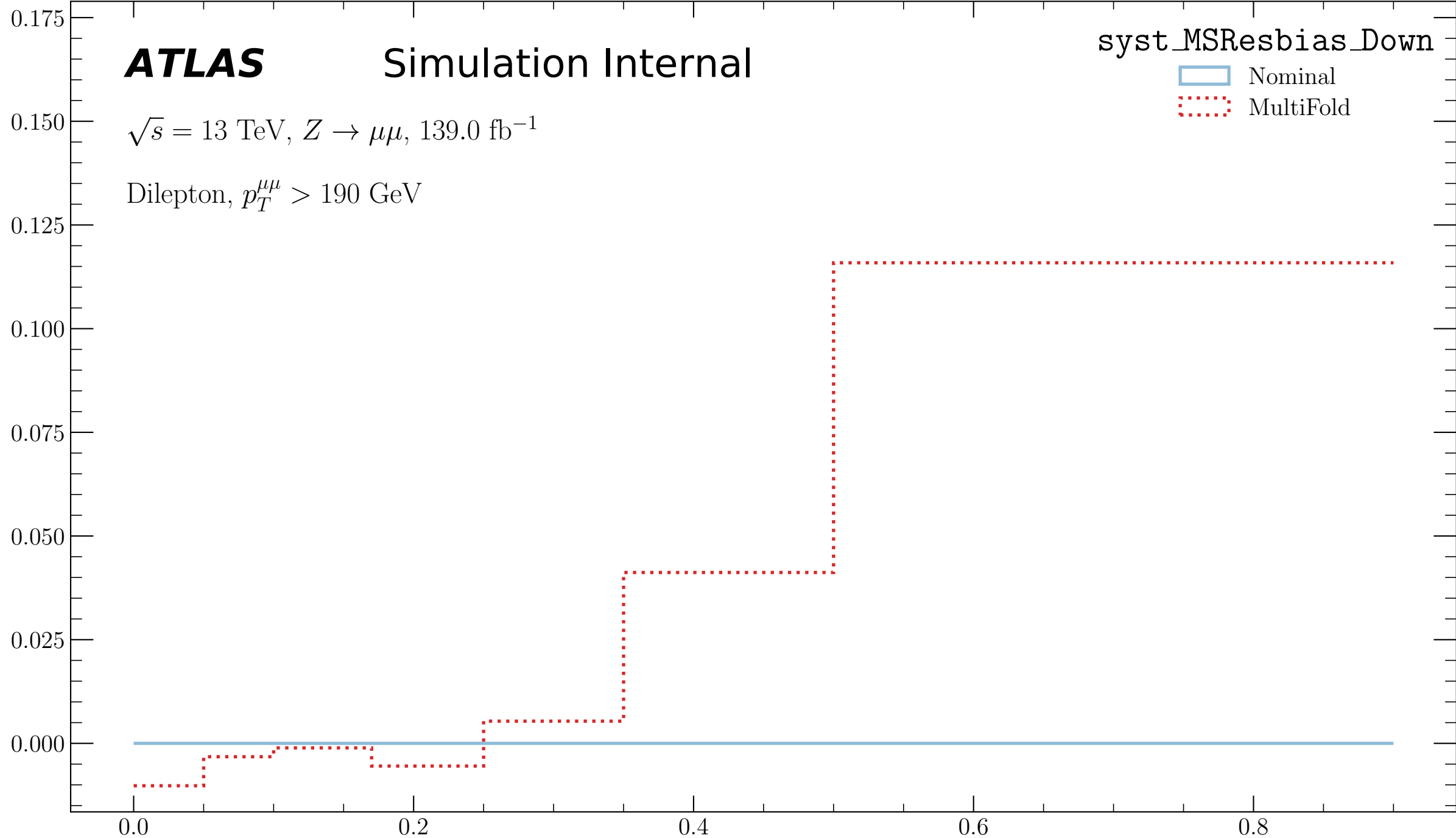
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Down

Nominal
MultiFold



Leading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

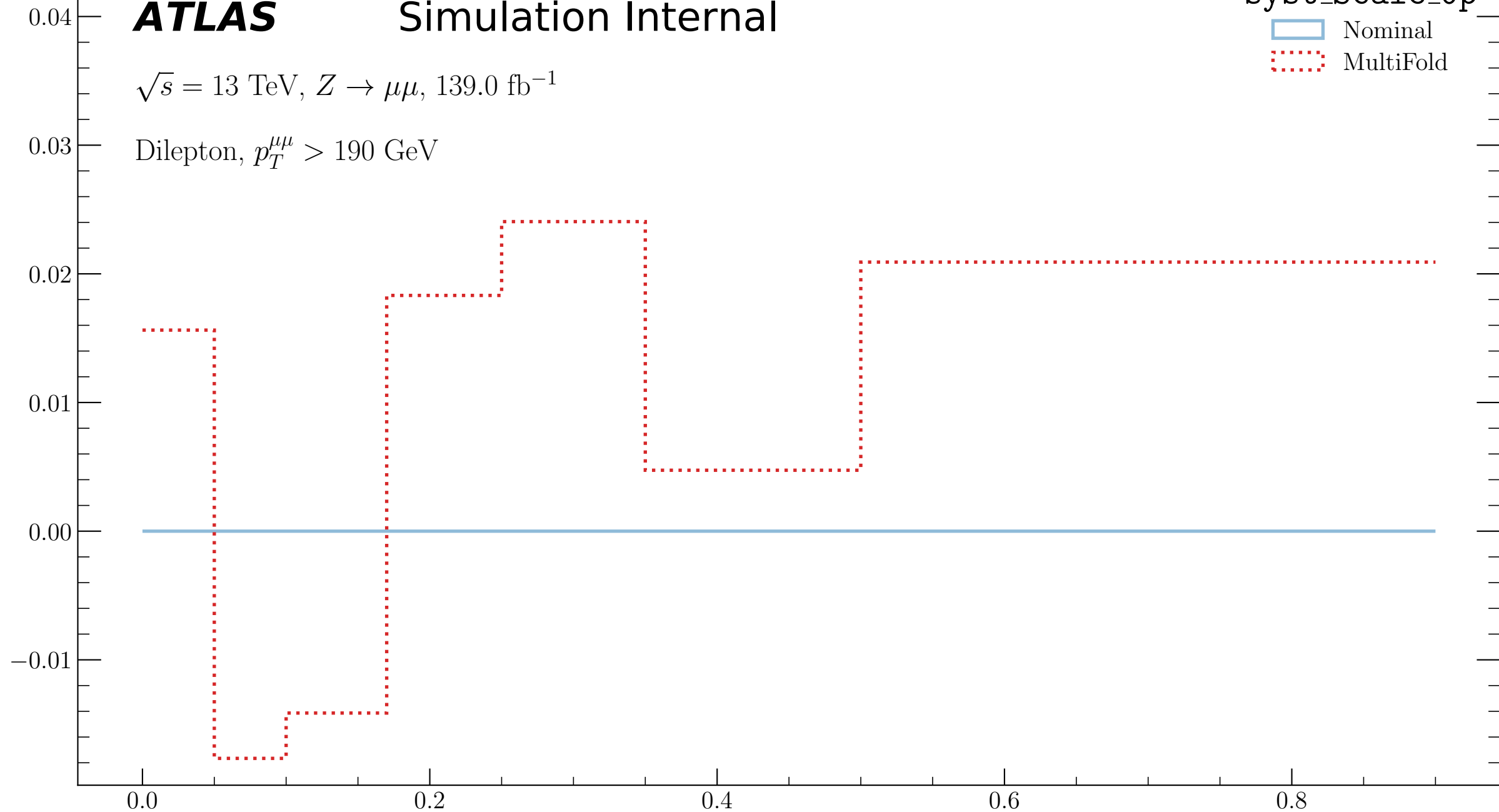
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Up

Nominal
MultiFold



Leading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

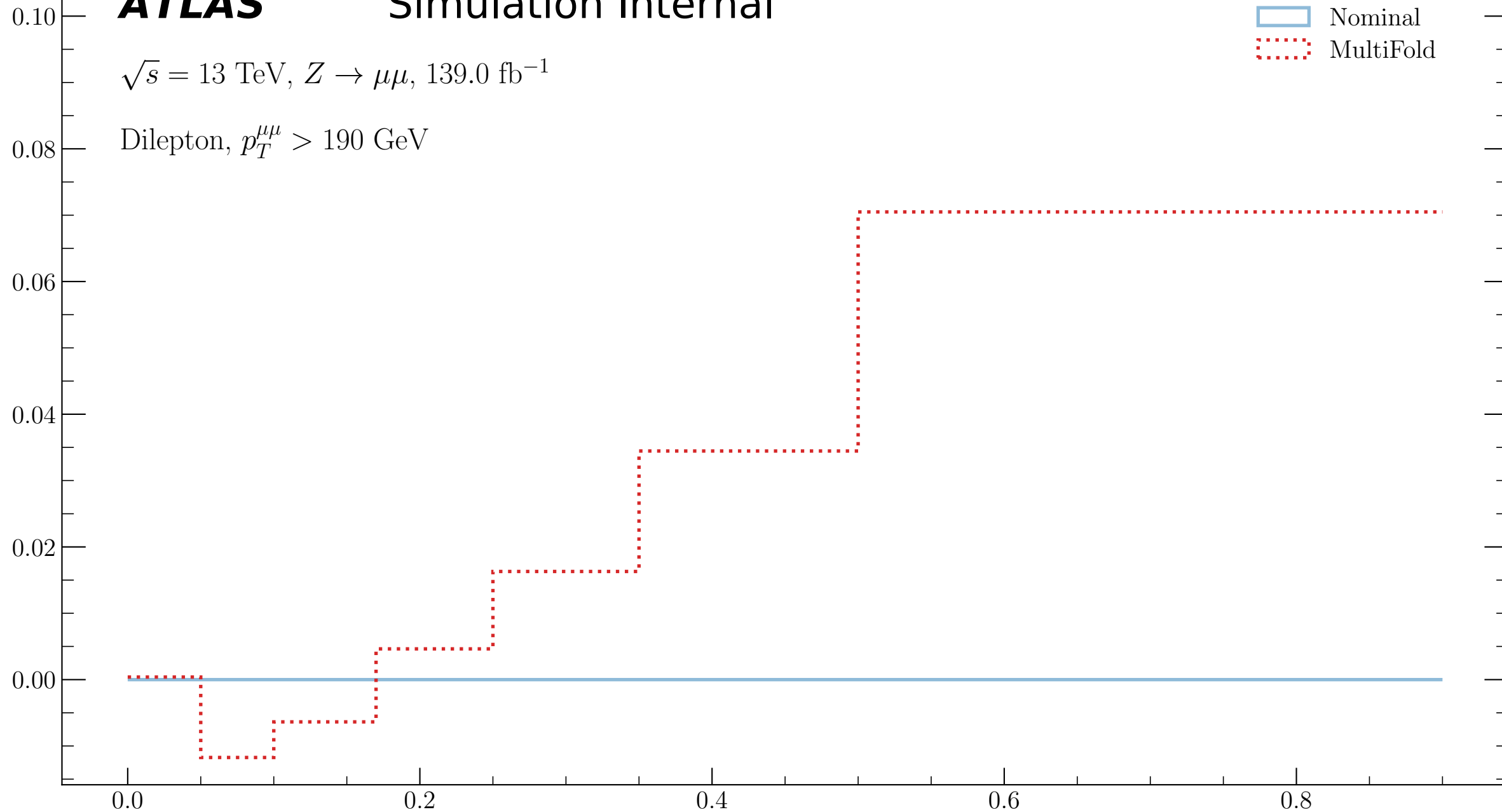
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Down

Nominal
MultiFold



Leading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

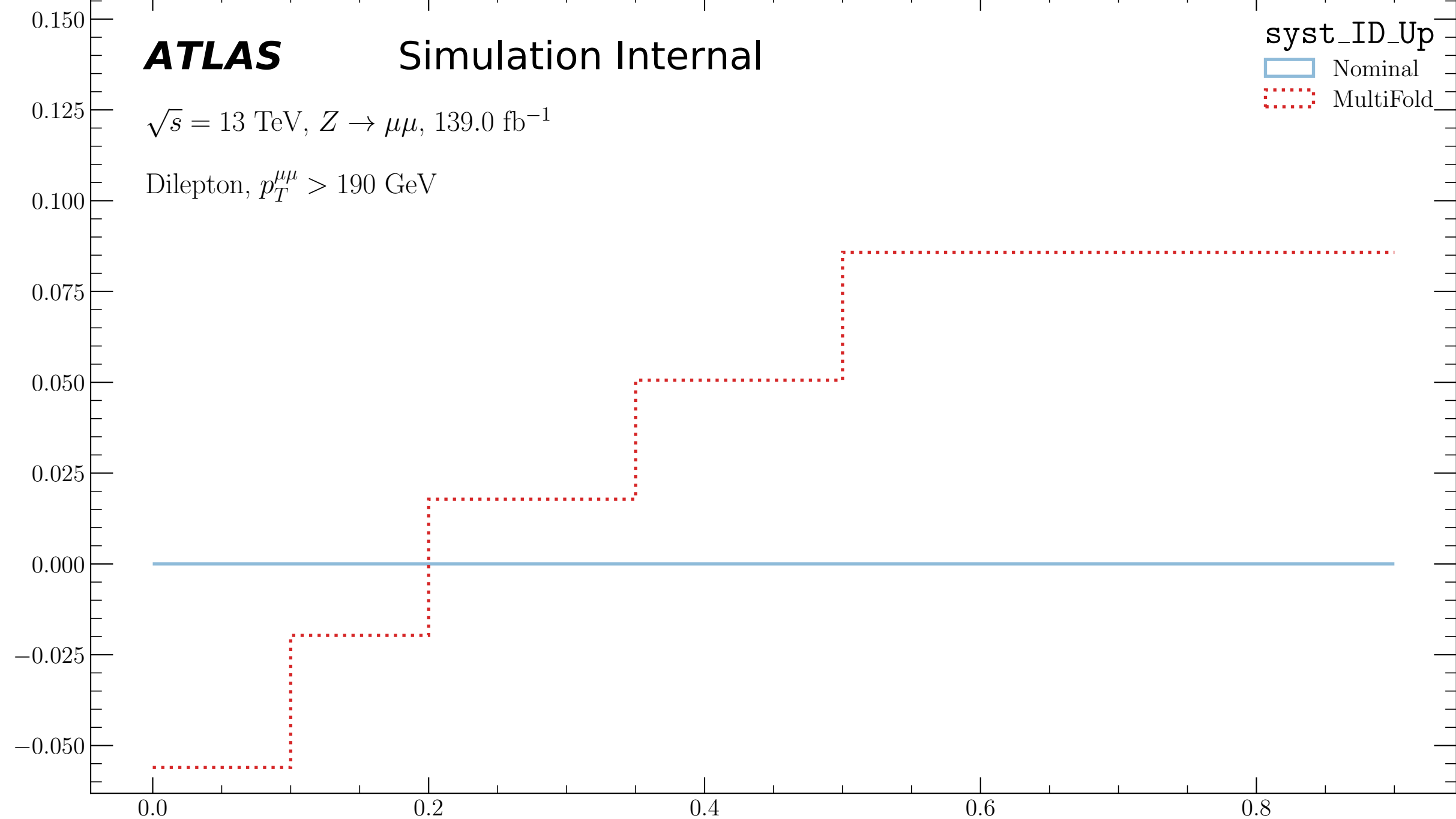
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Up

Nominal

MultiFold



Subleading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

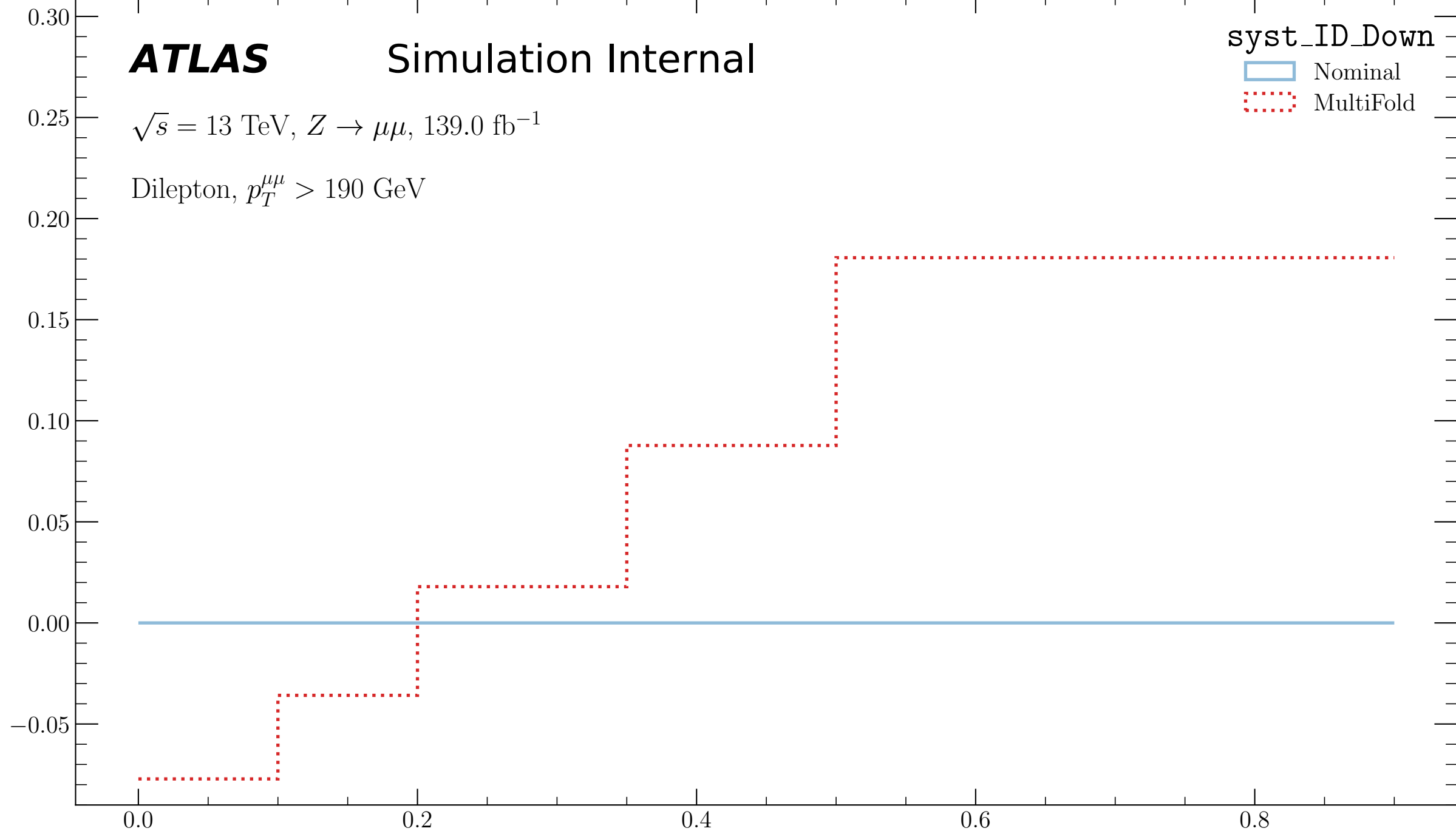
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Down

Nominal
MultiFold



Subleading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

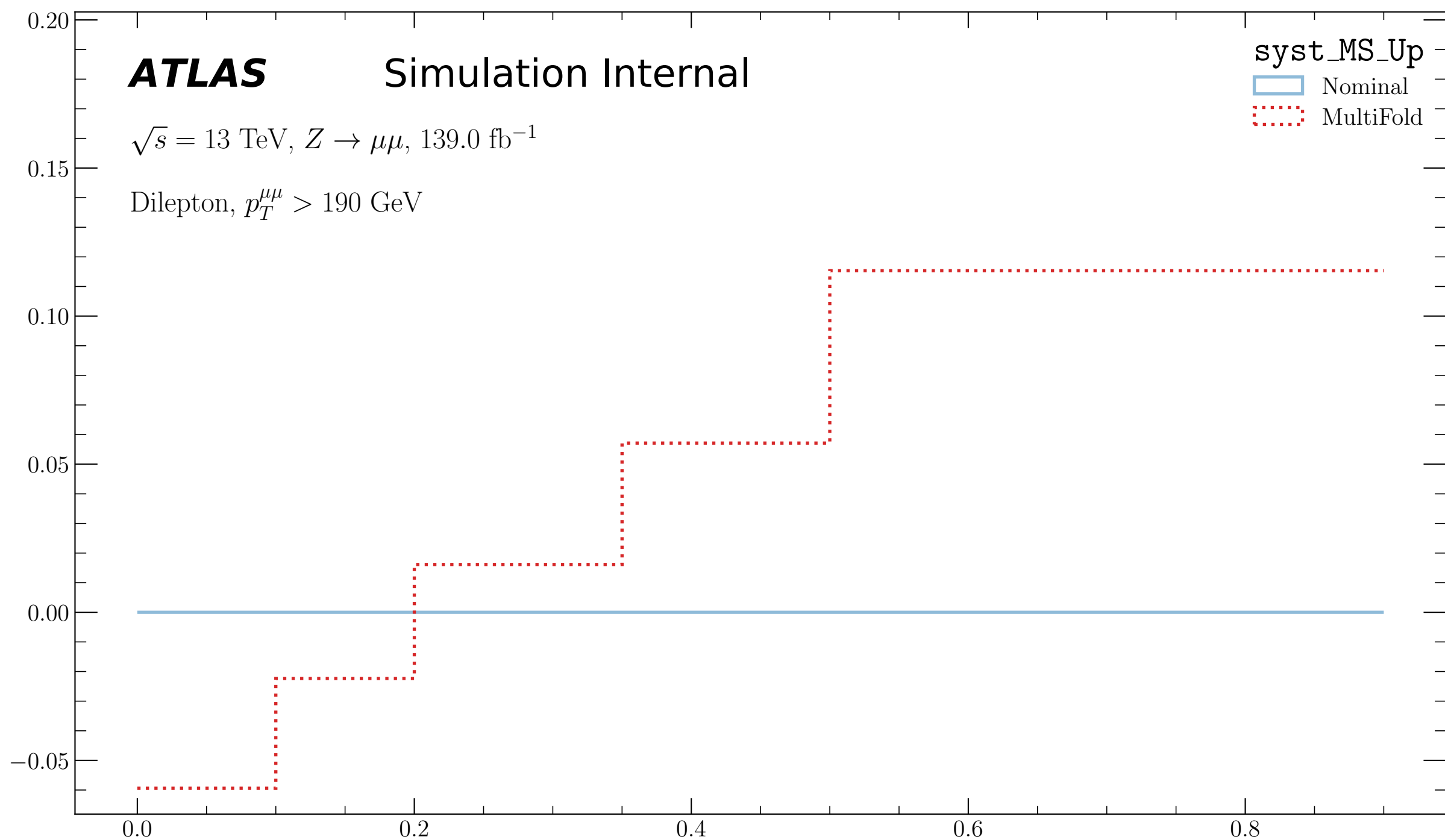
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Up

Nominal

MultiFold



Subleading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

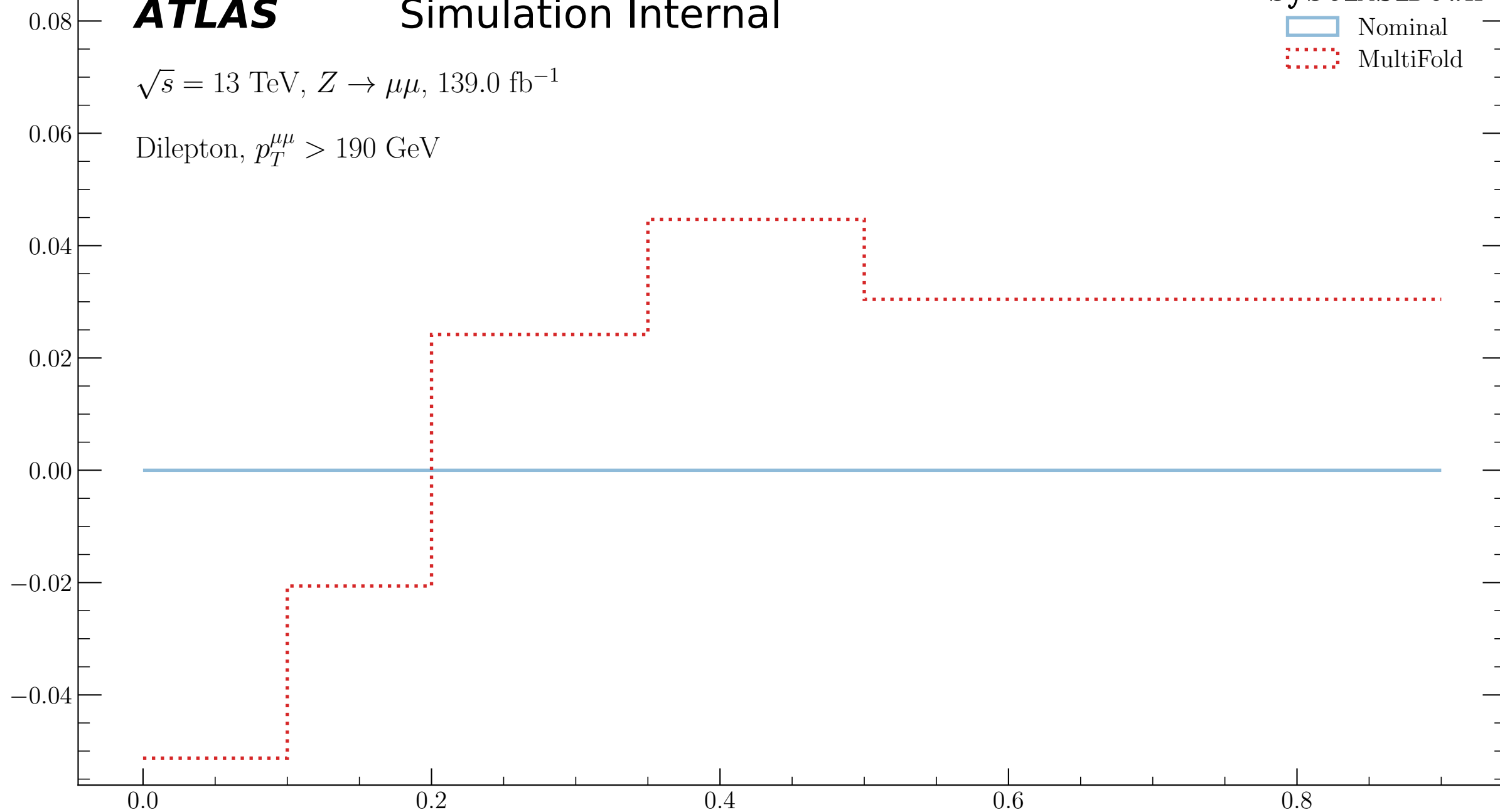
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Down

Nominal
MultiFold



Subleading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

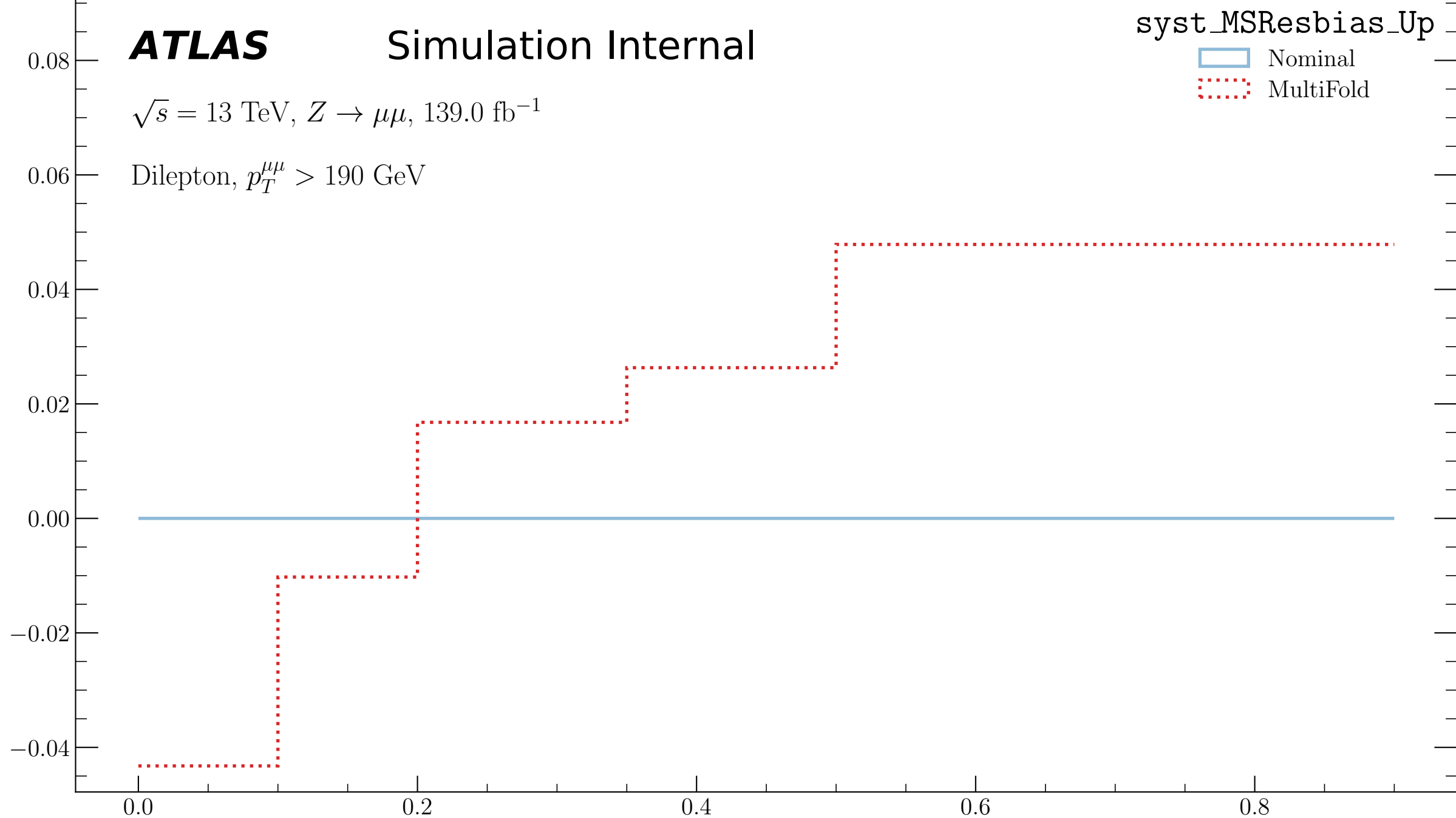
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Up

Nominal
MultiFold



Subleading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

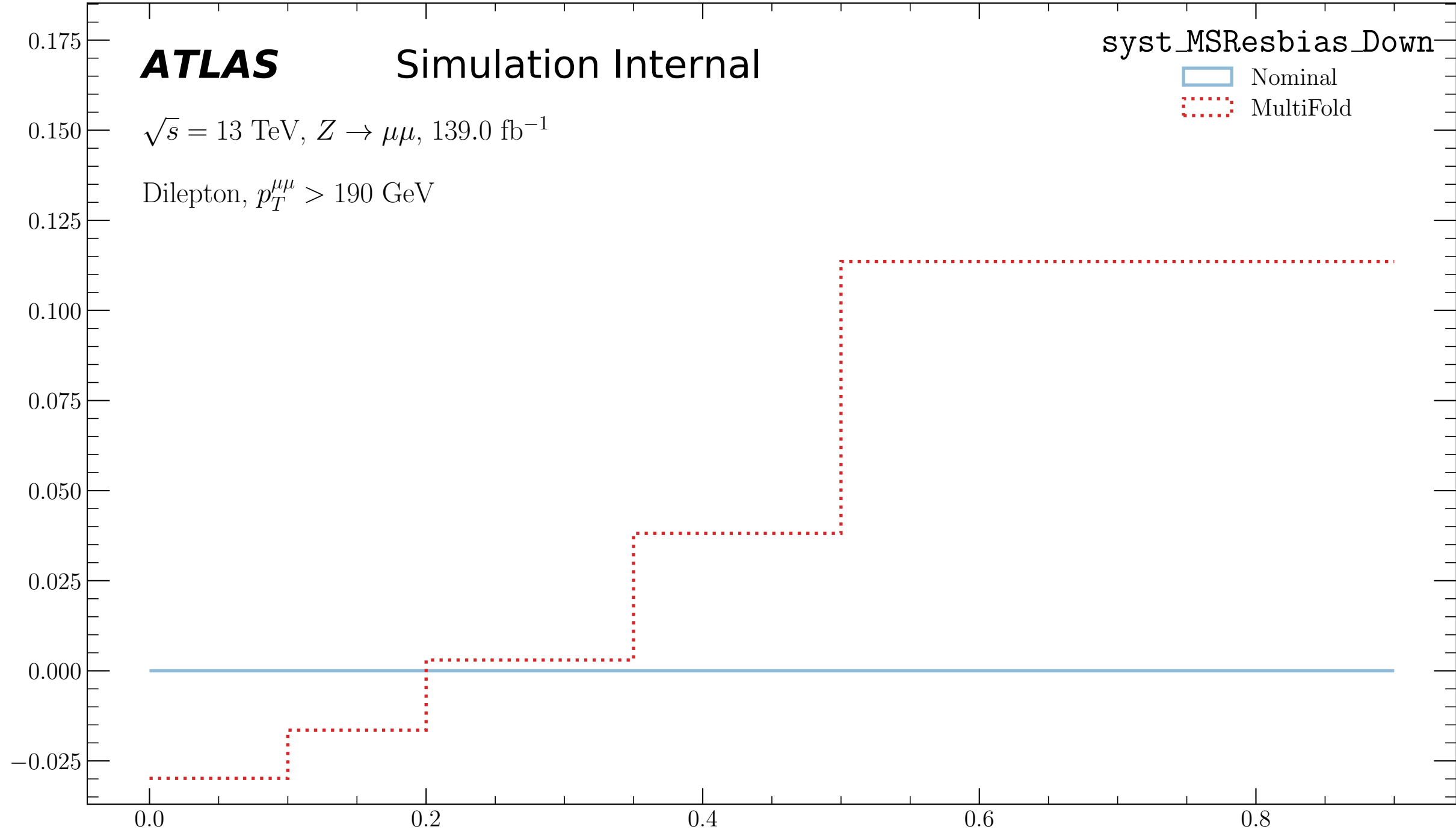
Simulation Internal

syst_MSResbias_Down

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

Nominal
MultiFold



Subleading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

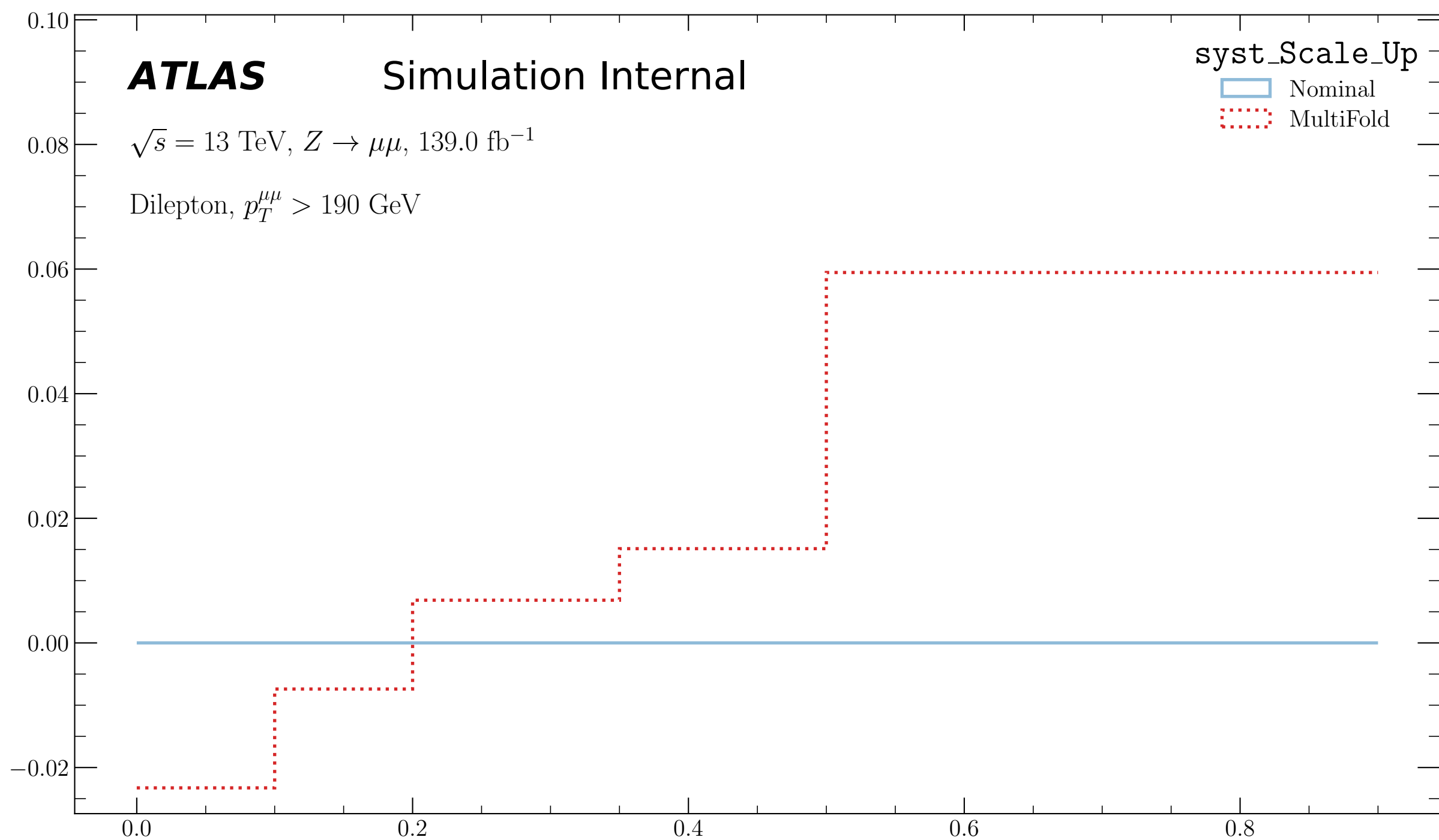
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Up

Nominal
MultiFold



Subleading track jet τ_1

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

syst_Scale_Down

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

Nominal
MultiFold

0.15
0.10
0.05
0.00
-0.05

0.0

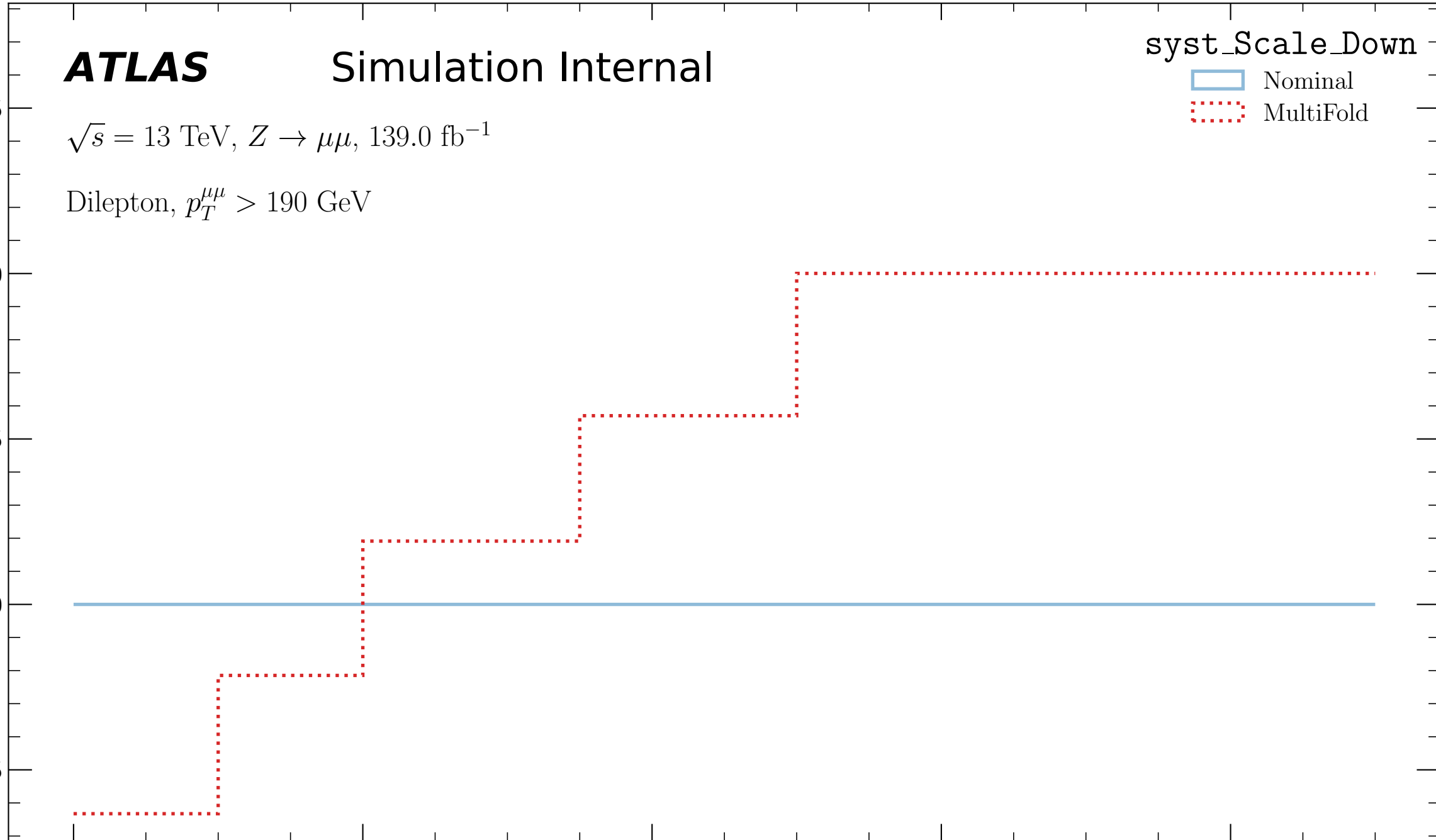
0.2

0.4

0.6

0.8

Subleading track jet τ_1



ATLAS

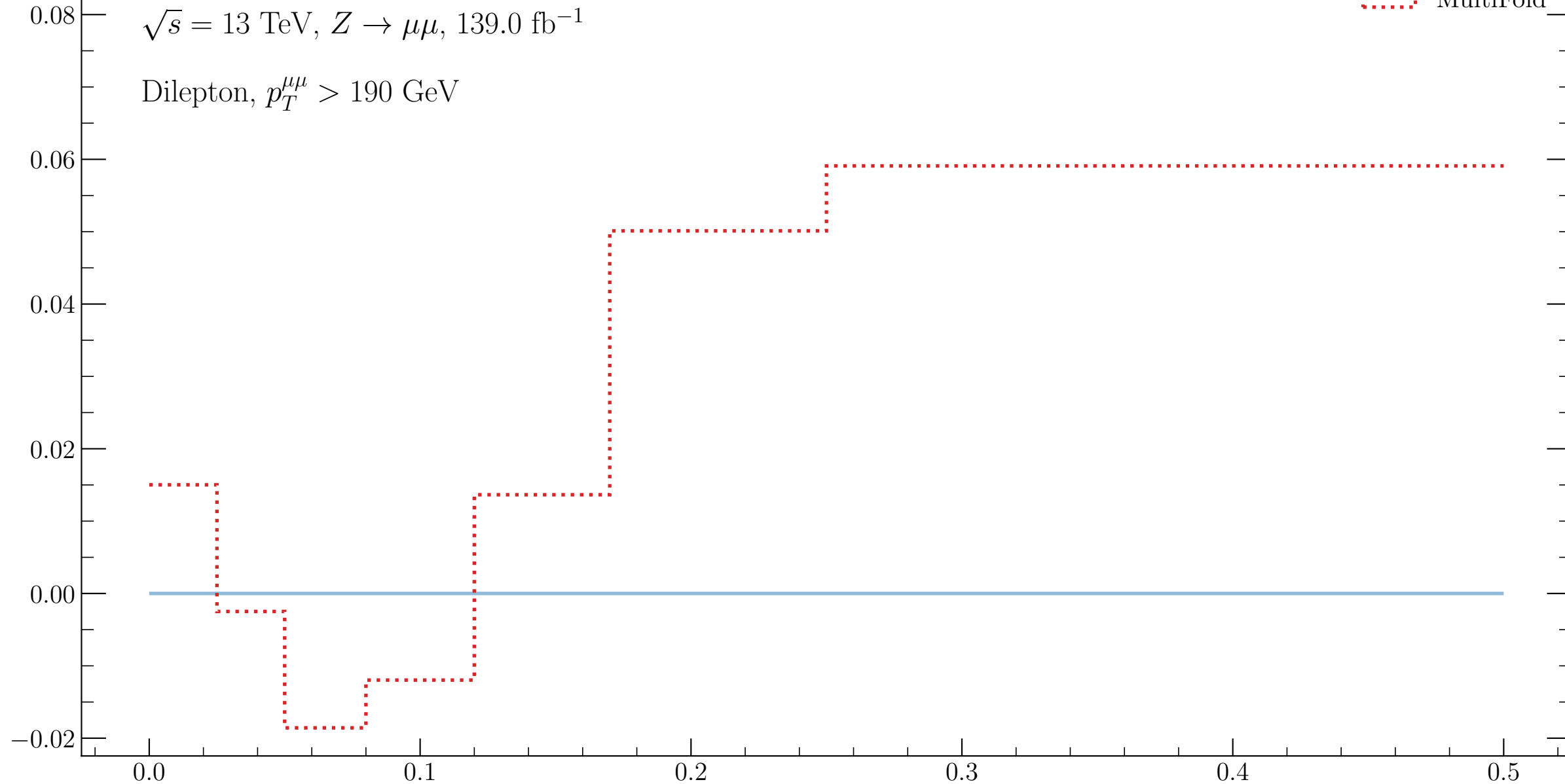
Simulation Internal

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

syst_ID_Up

Nominal

MultiFold

Leading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

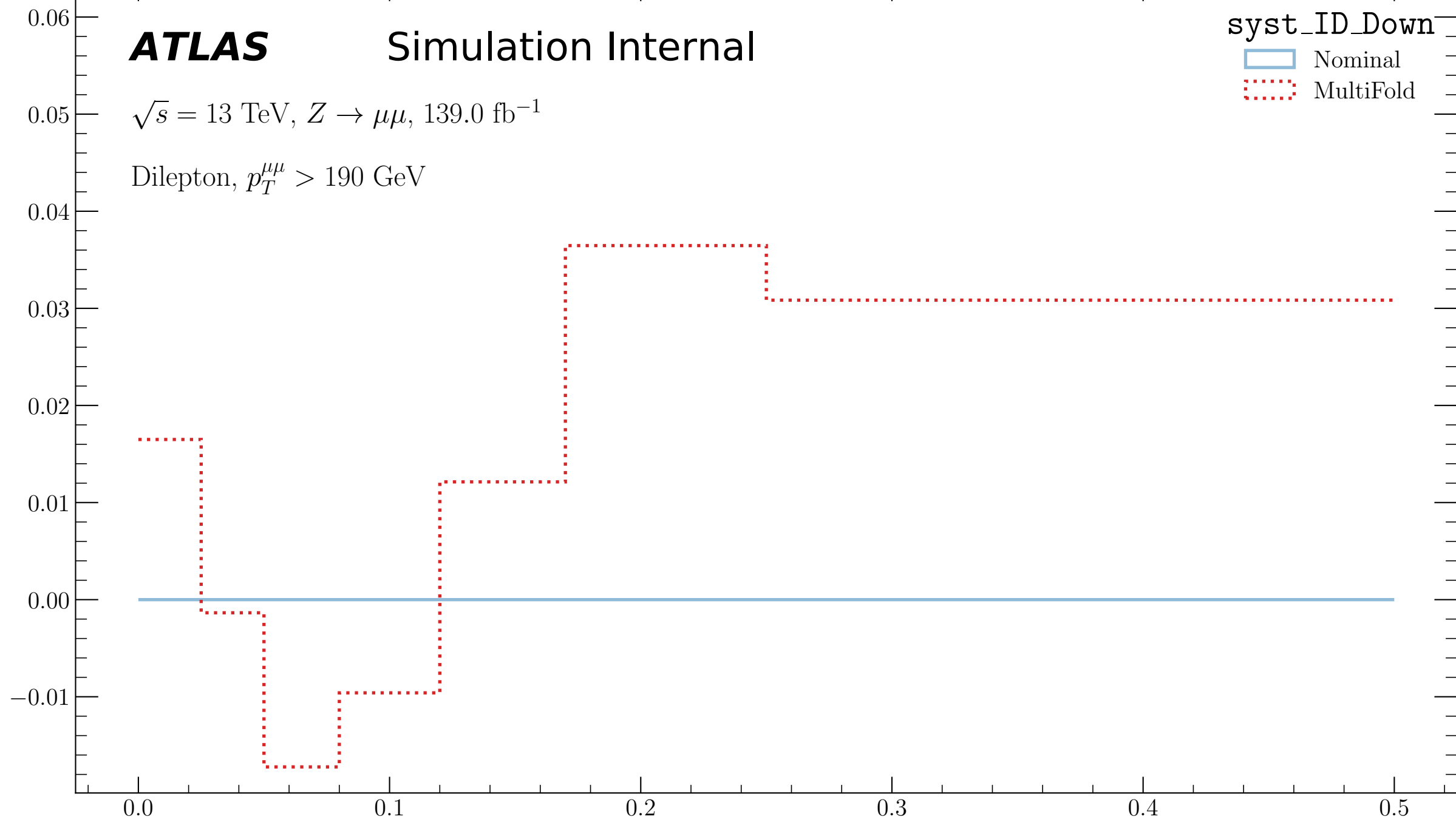
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Down

Nominal
MultiFold



Leading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

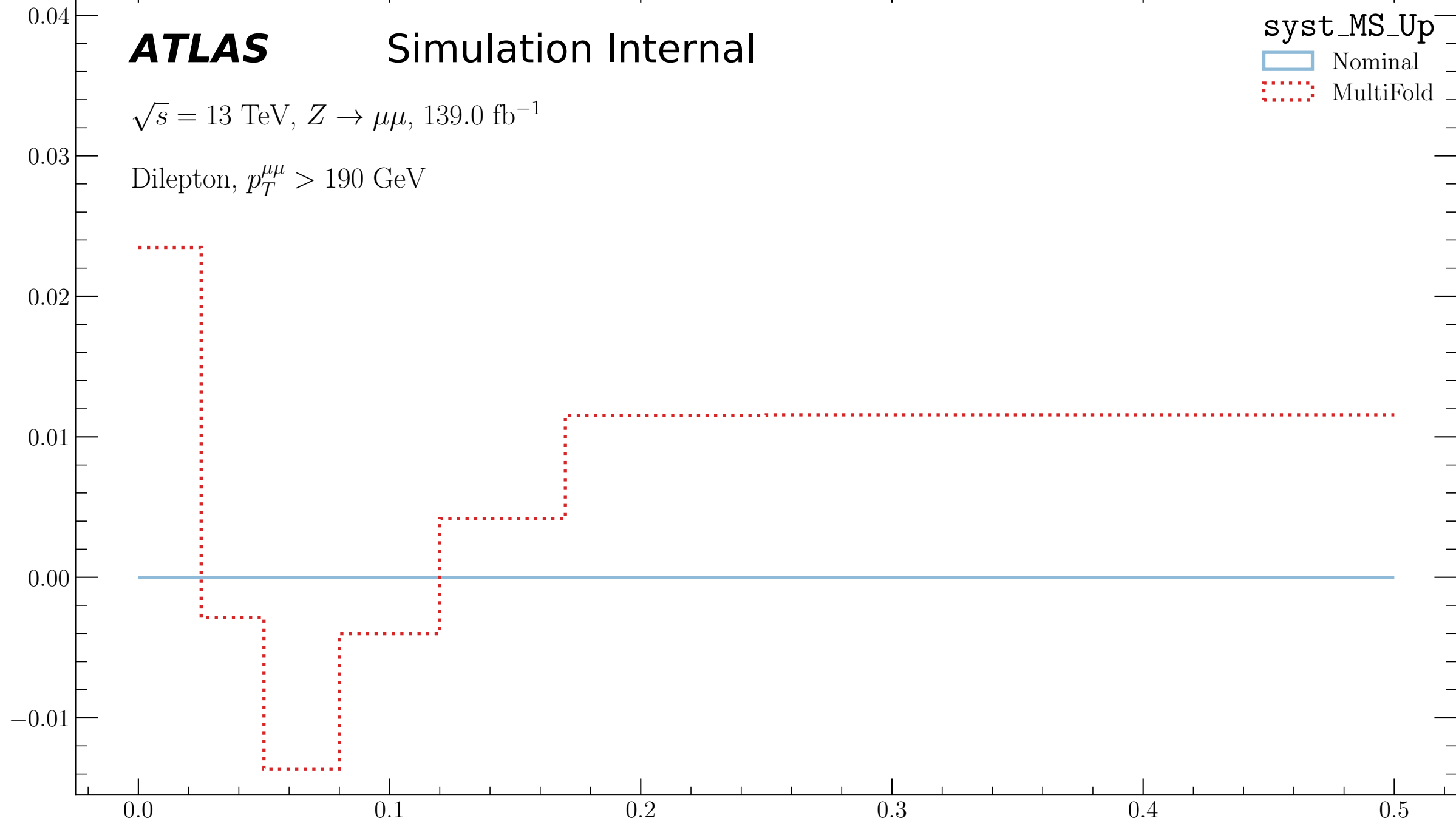
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Up

Nominal

MultiFold



Leading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

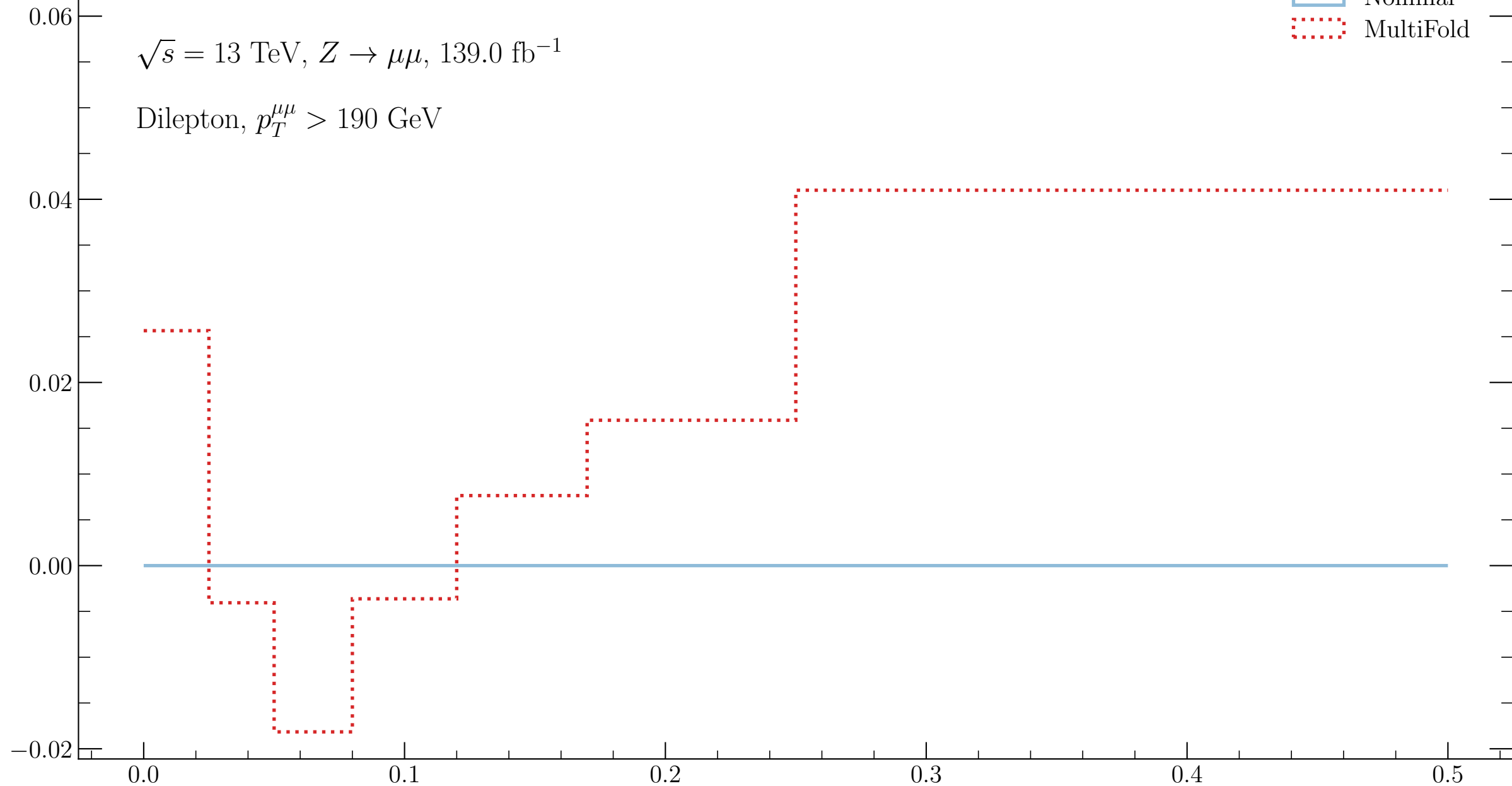
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Down

Nominal
MultiFold



Leading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

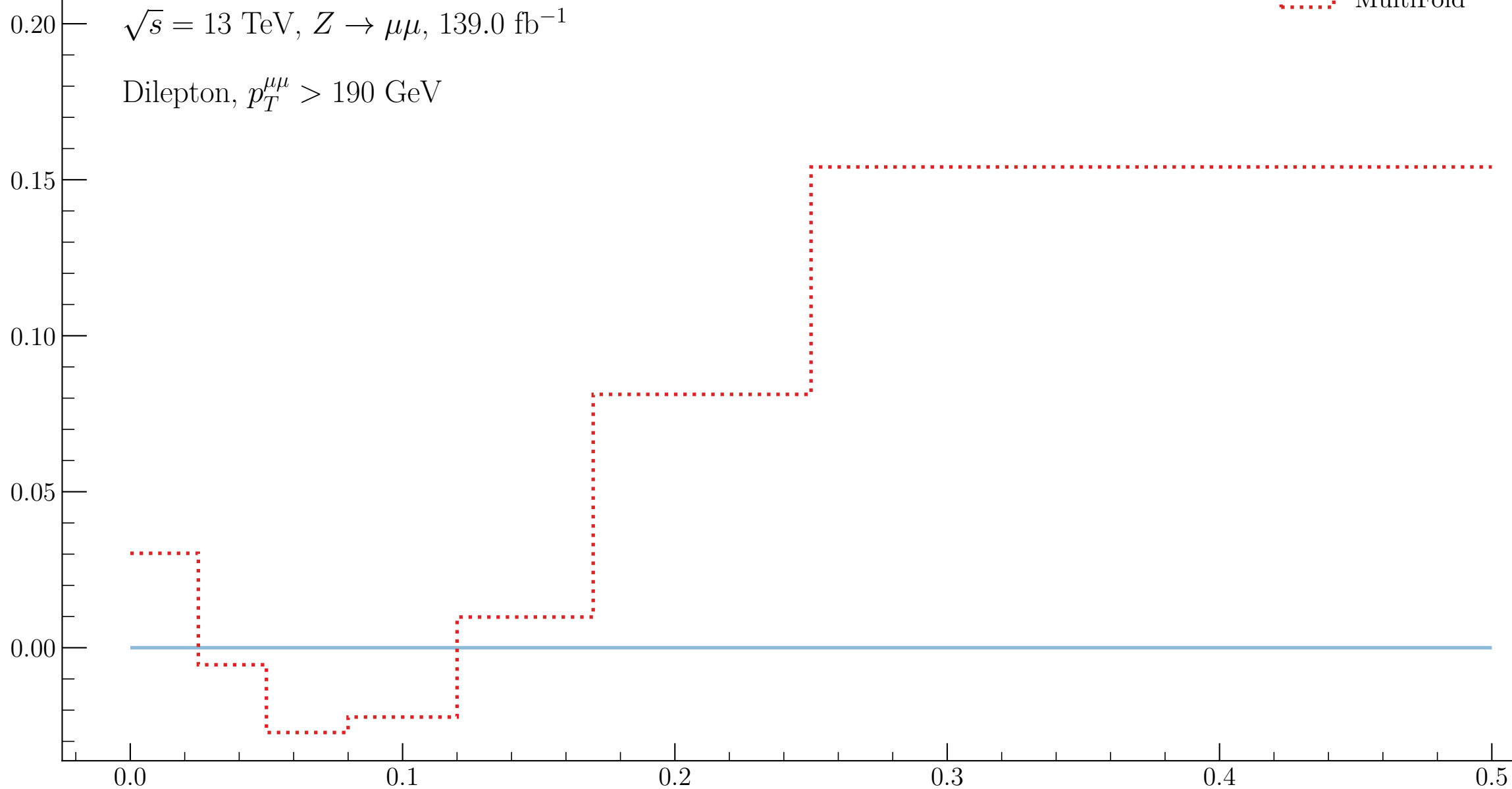
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Up

Nominal
MultiFold



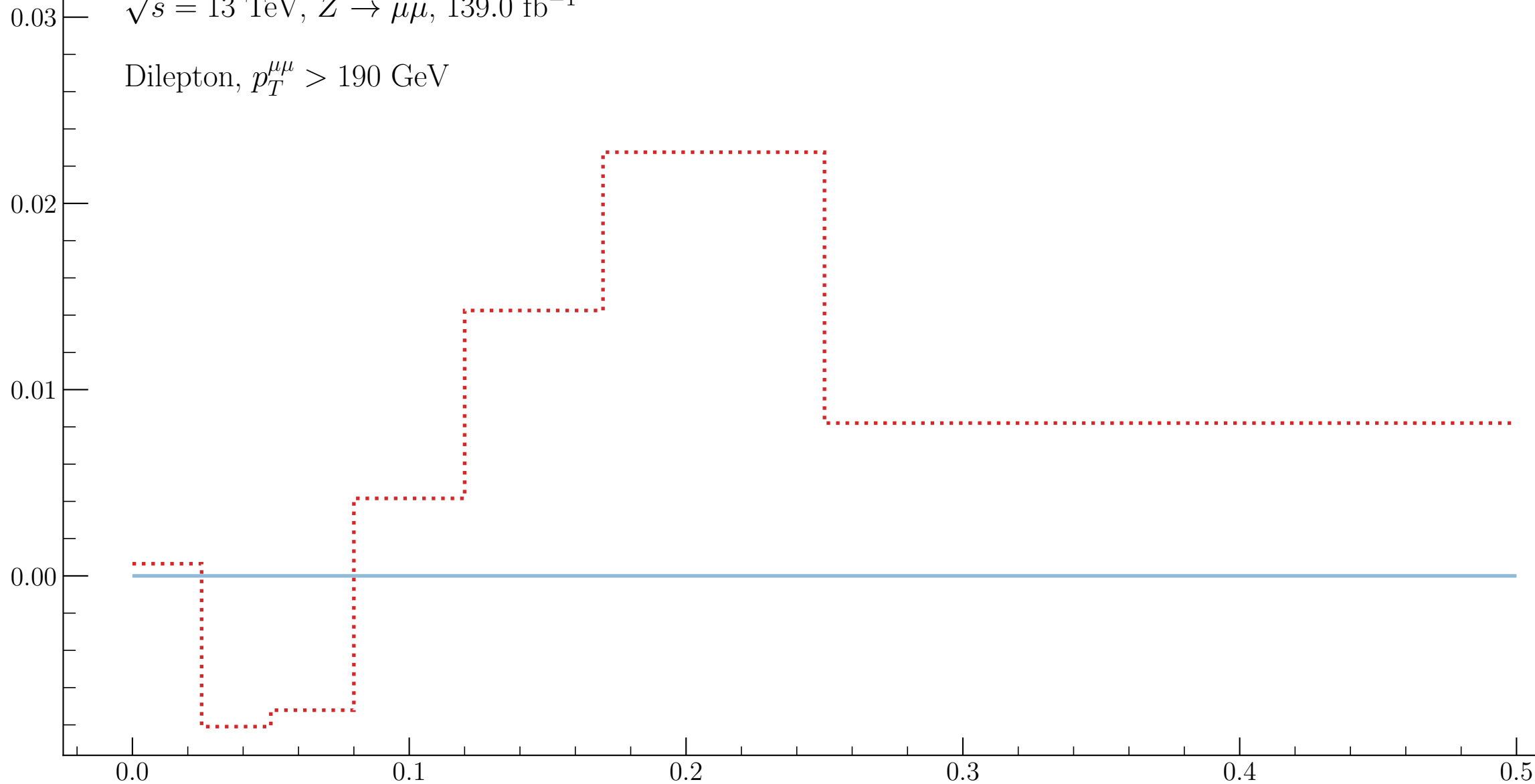
Leading track jet τ_2

ATLAS

Simulation Internal

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

syst_MSResbias_Down

Nominal
MultiFoldLeading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

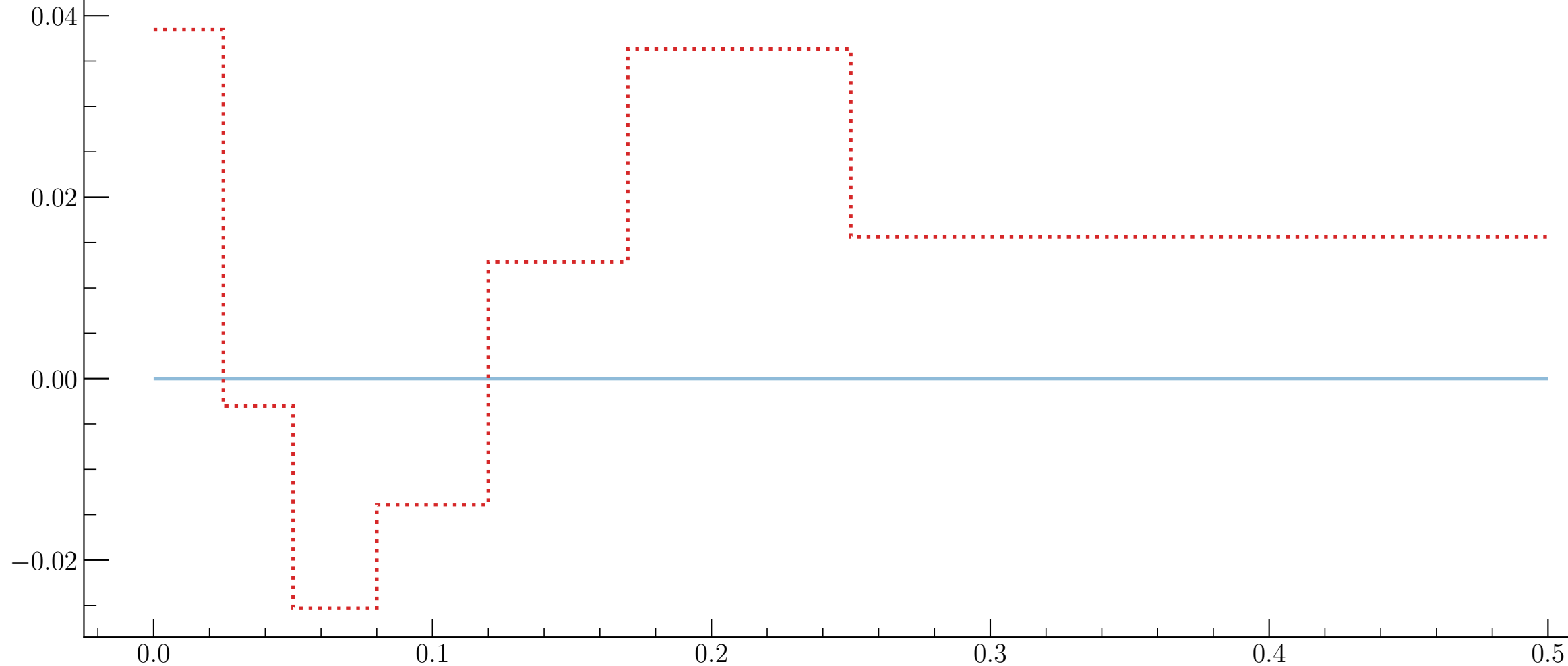
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Up

Nominal
MultiFold



Leading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

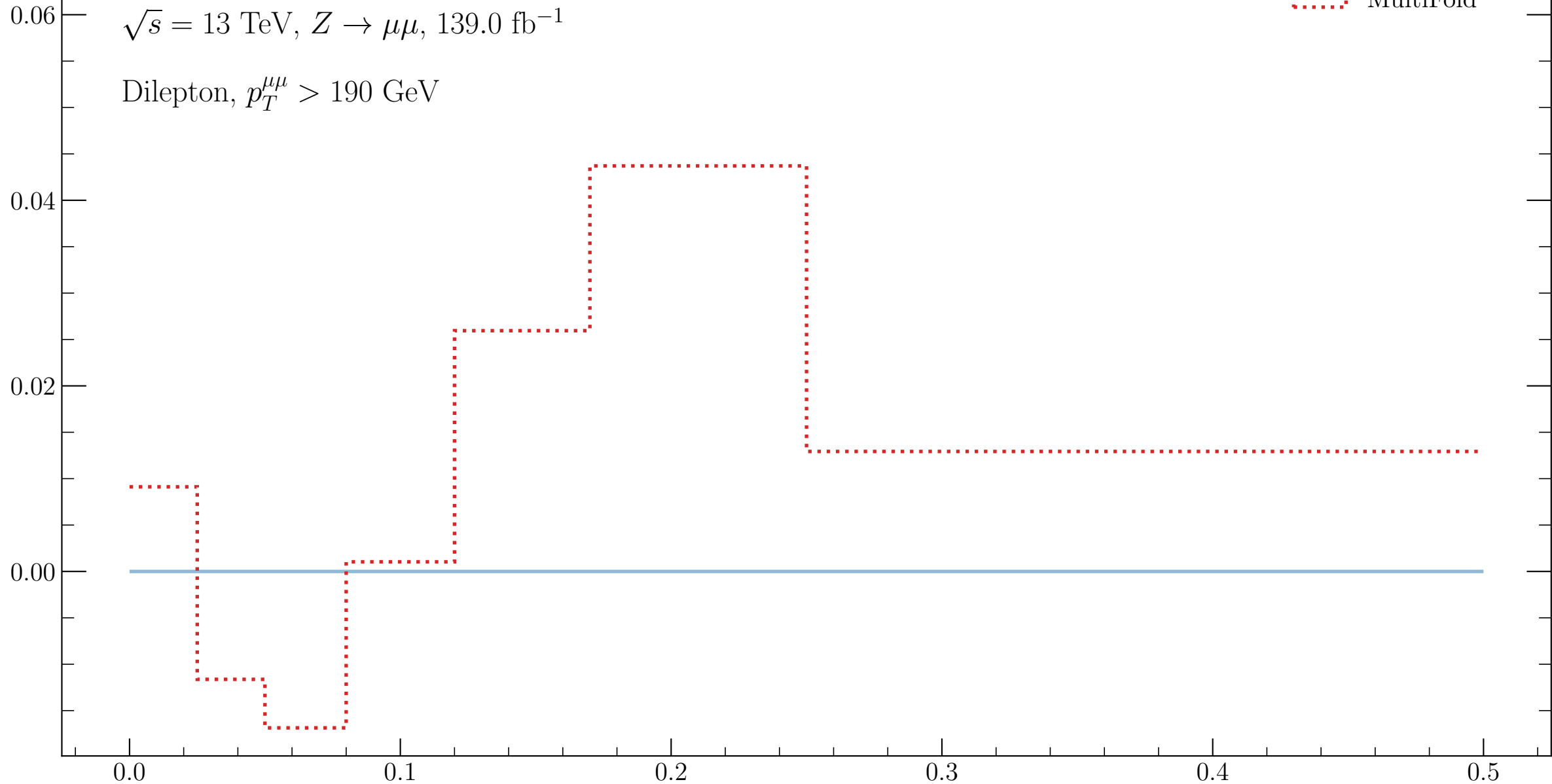
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Down

Nominal
MultiFold



Leading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

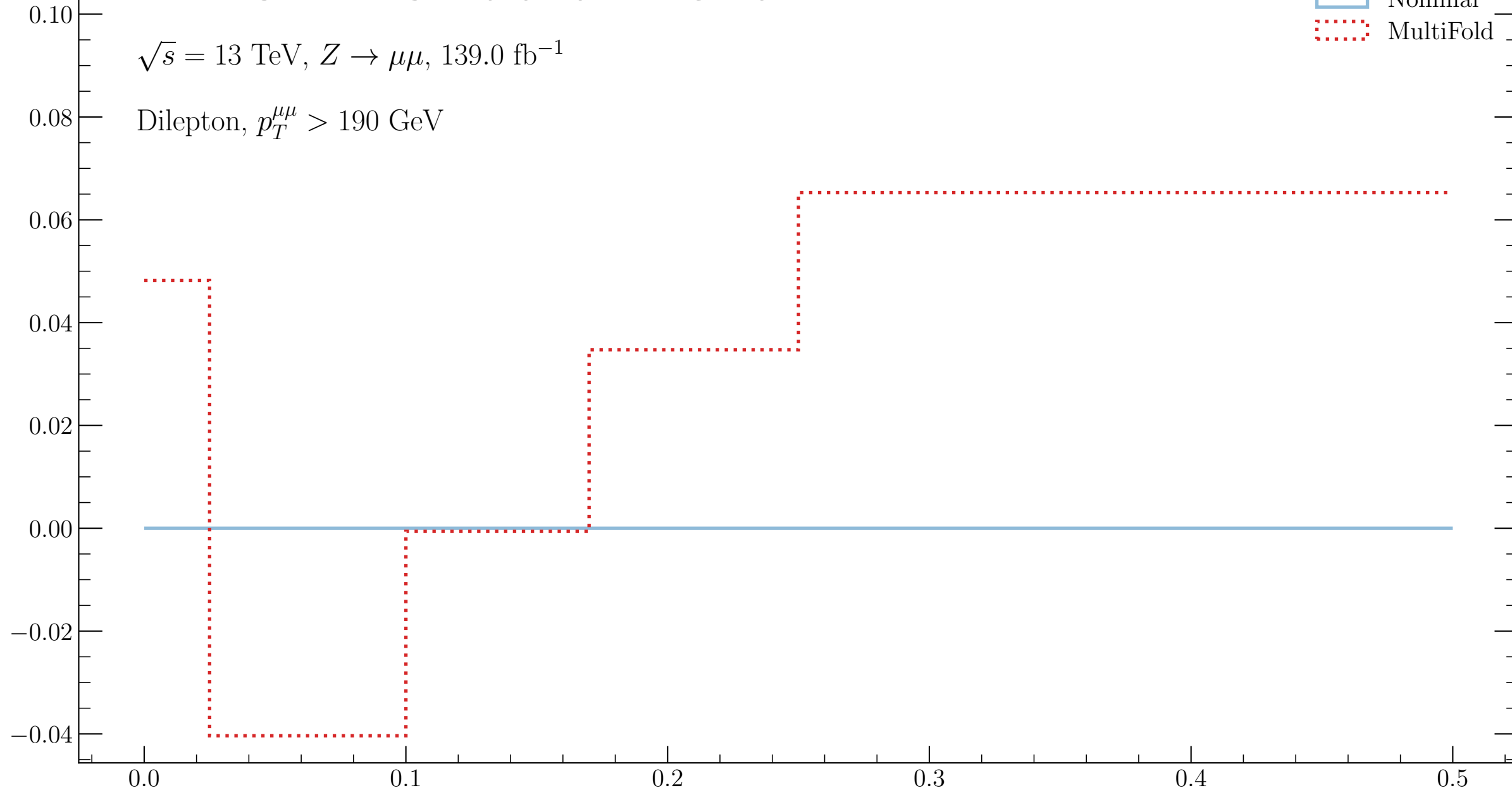
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Up

Nominal

MultiFold



Subleading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

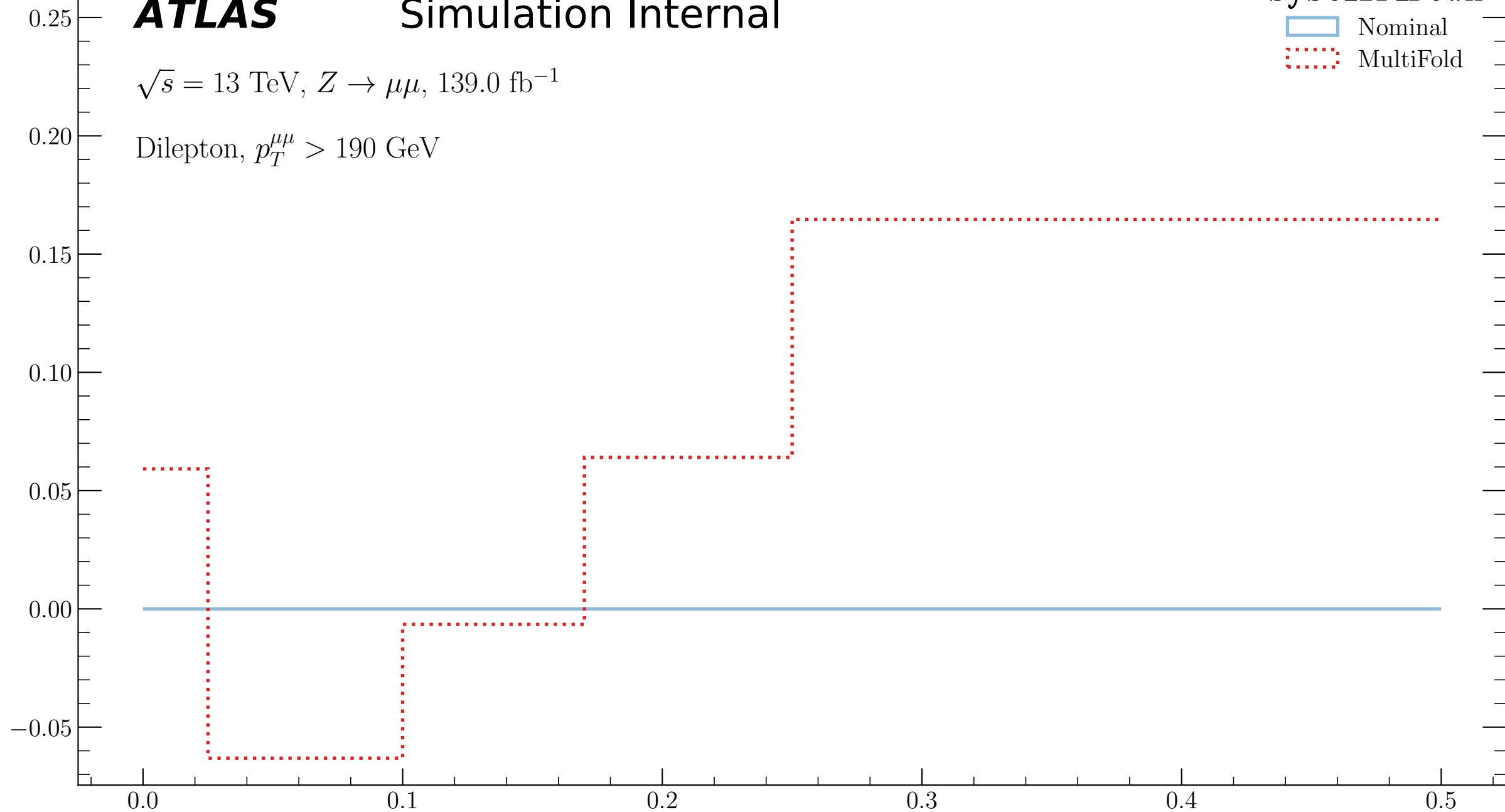
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Down

Nominal
MultiFold



Subleading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

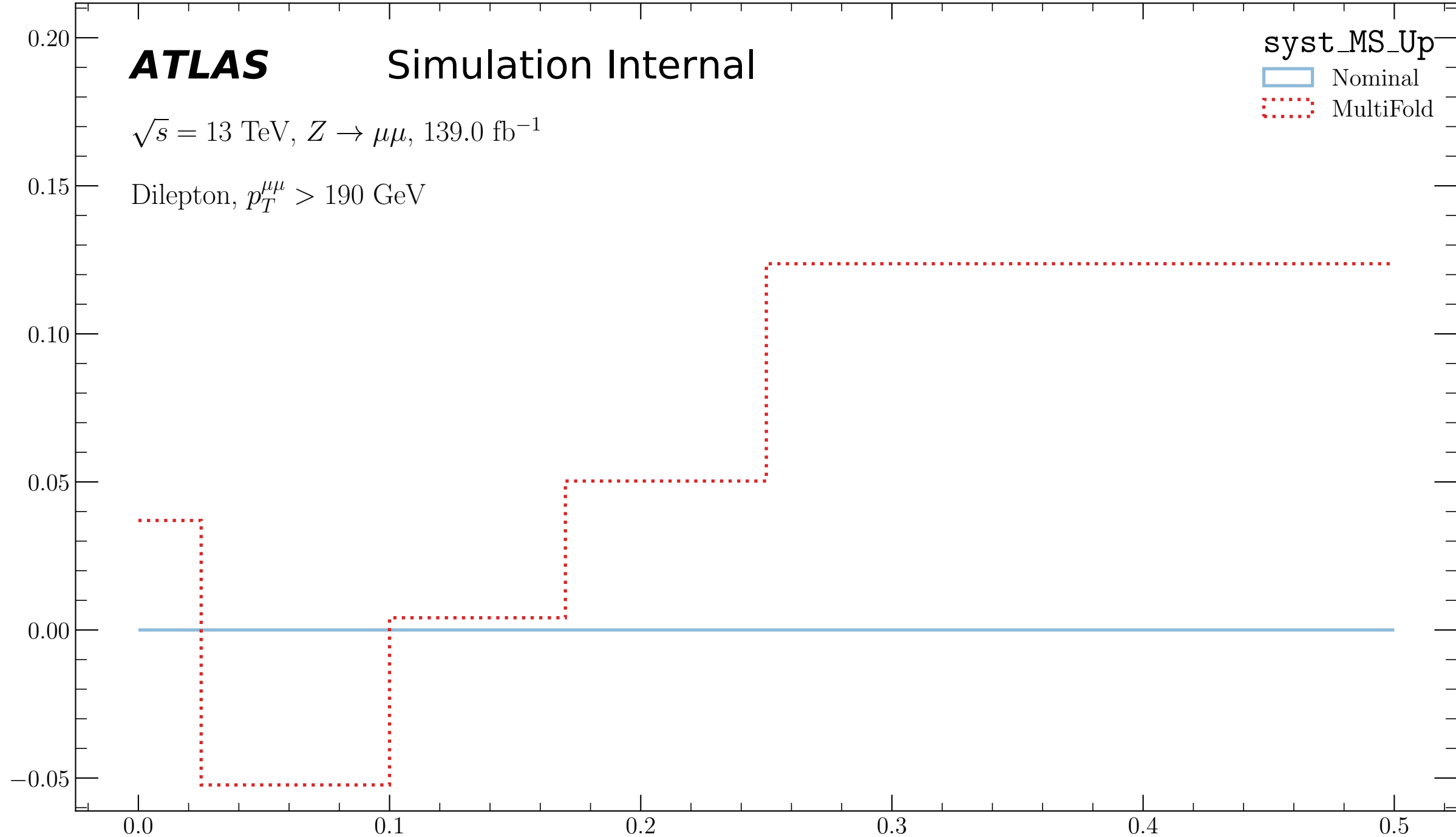
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Up

Nominal

MultiFold



Subleading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

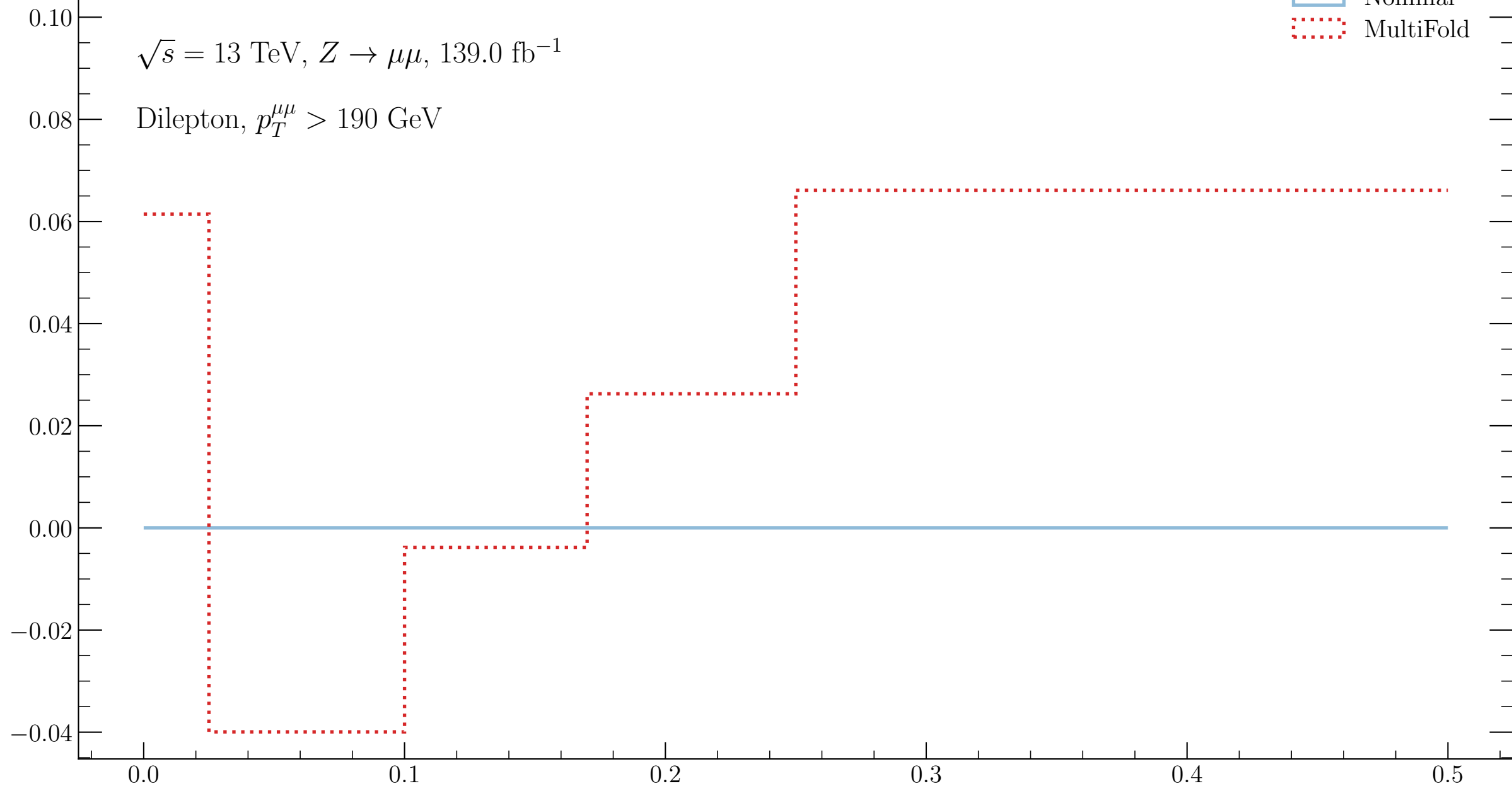
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Down

Nominal
MultiFold



Subleading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

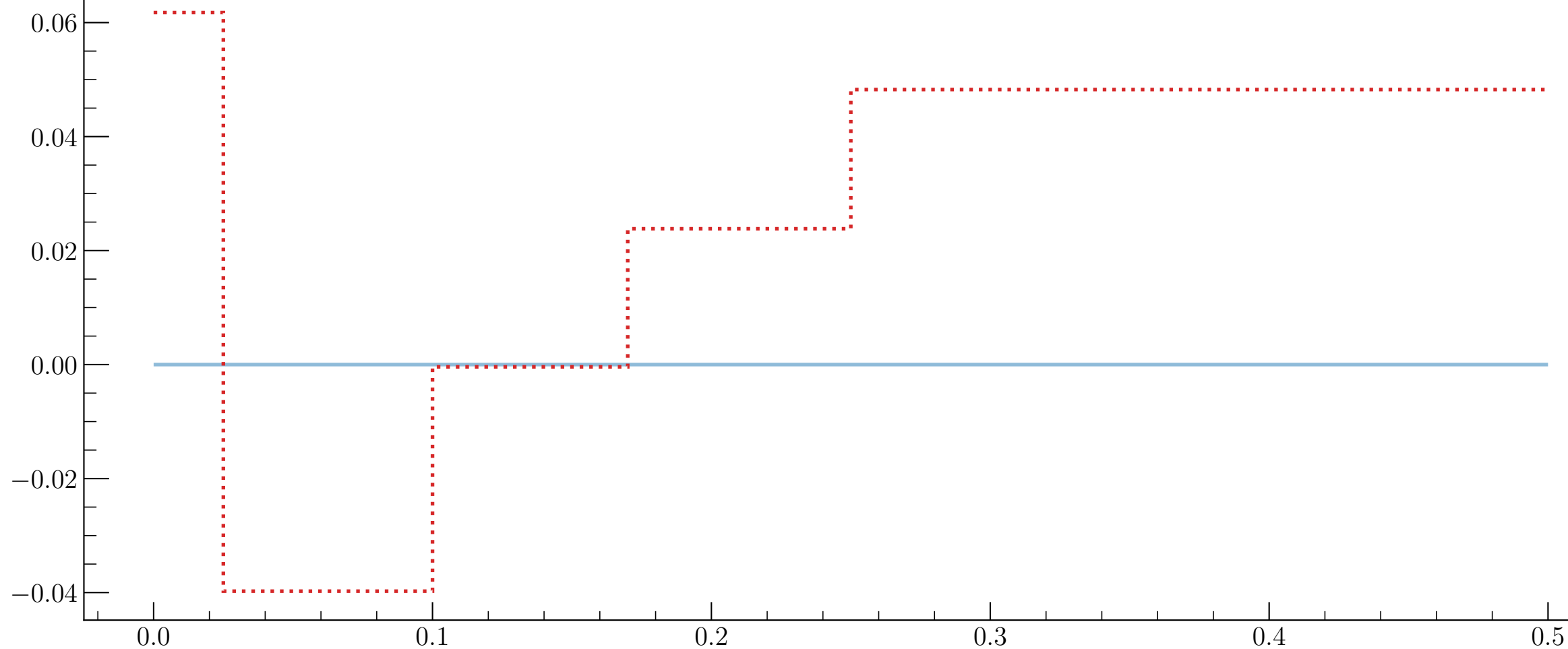
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Up

Nominal
MultiFold



Subleading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

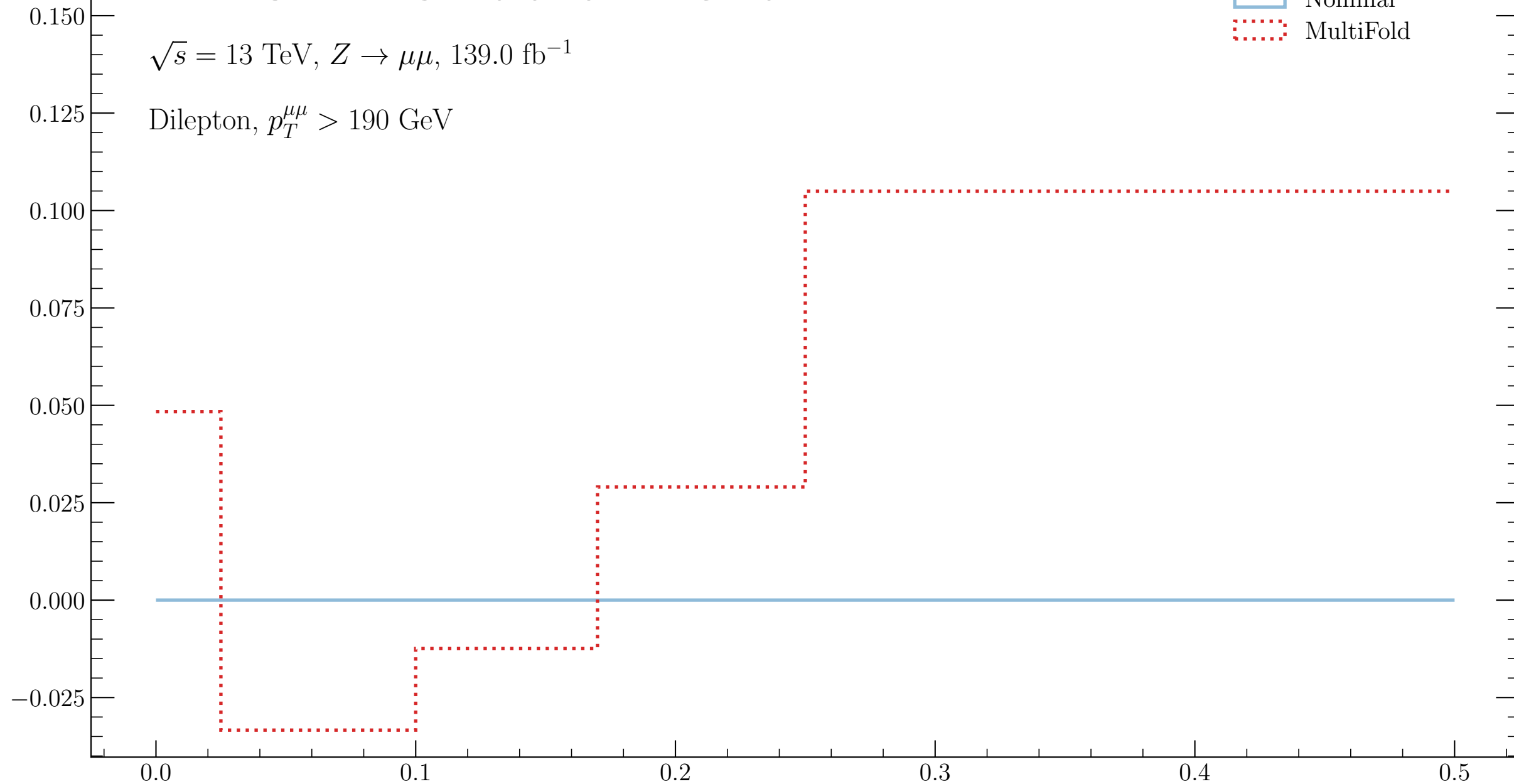
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Down

Nominal
MultiFold



Subleading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

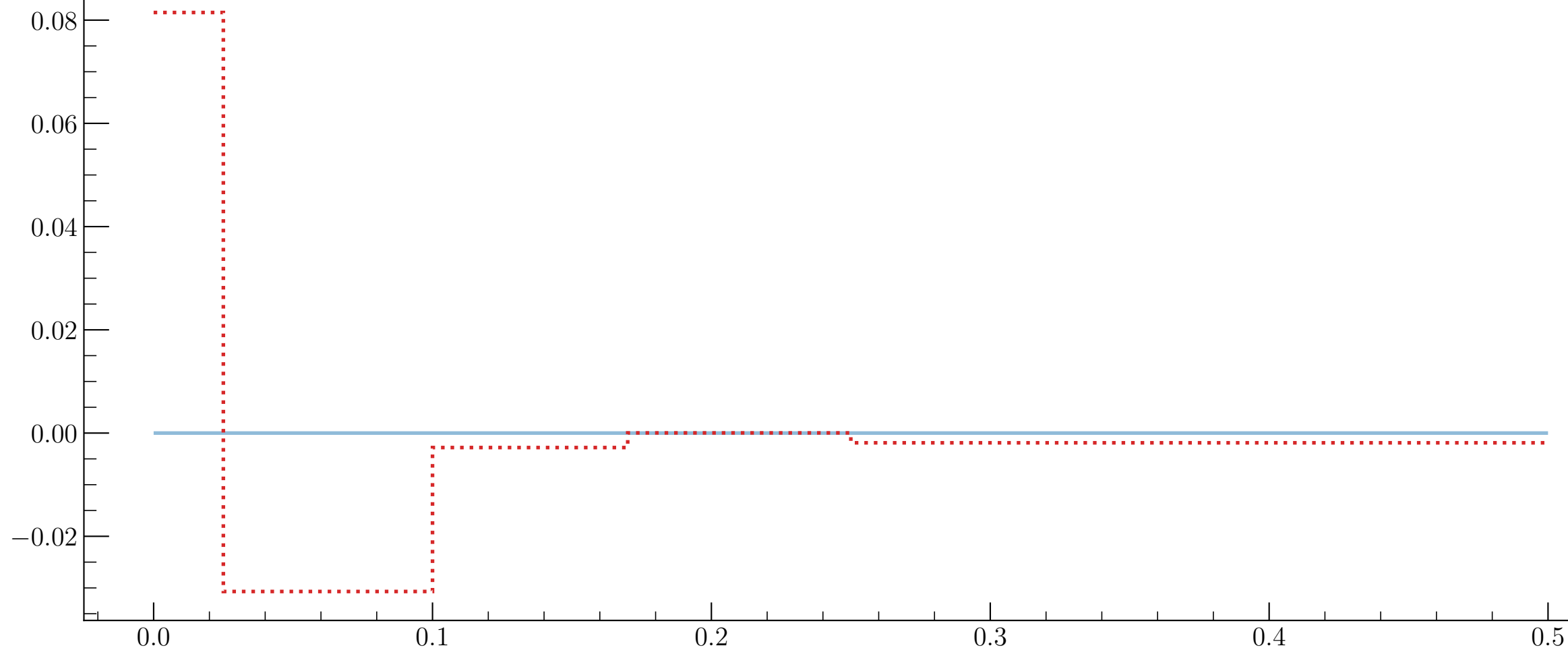
Simulation Internal

syst_Scale_Up

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

Nominal
MultiFold



Subleading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

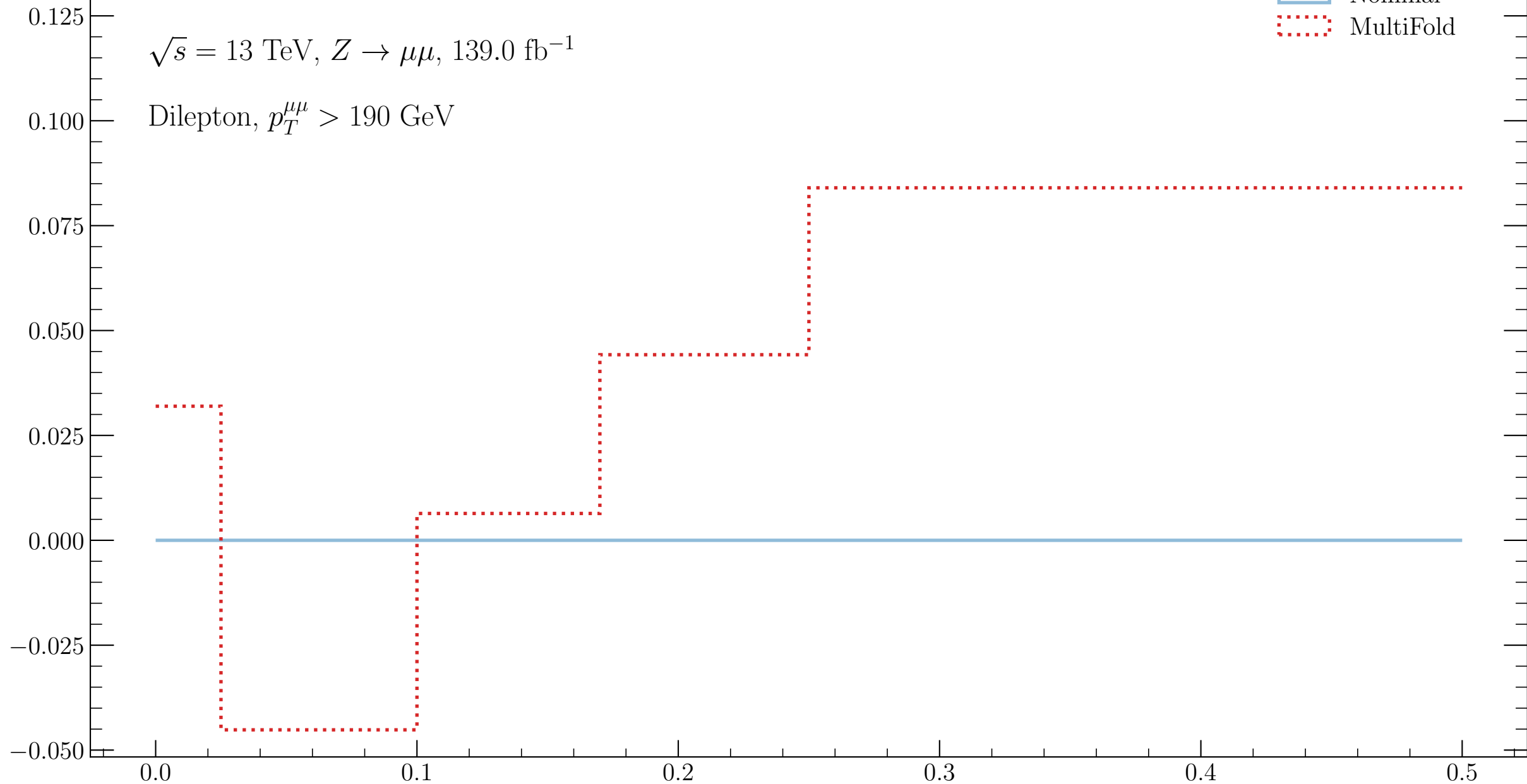
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Down

Nominal
MultiFold



Subleading track jet τ_2

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Up

Nominal

MultiFold

0.08

0.06

0.04

0.02

0.00

0.00

0.05

0.10

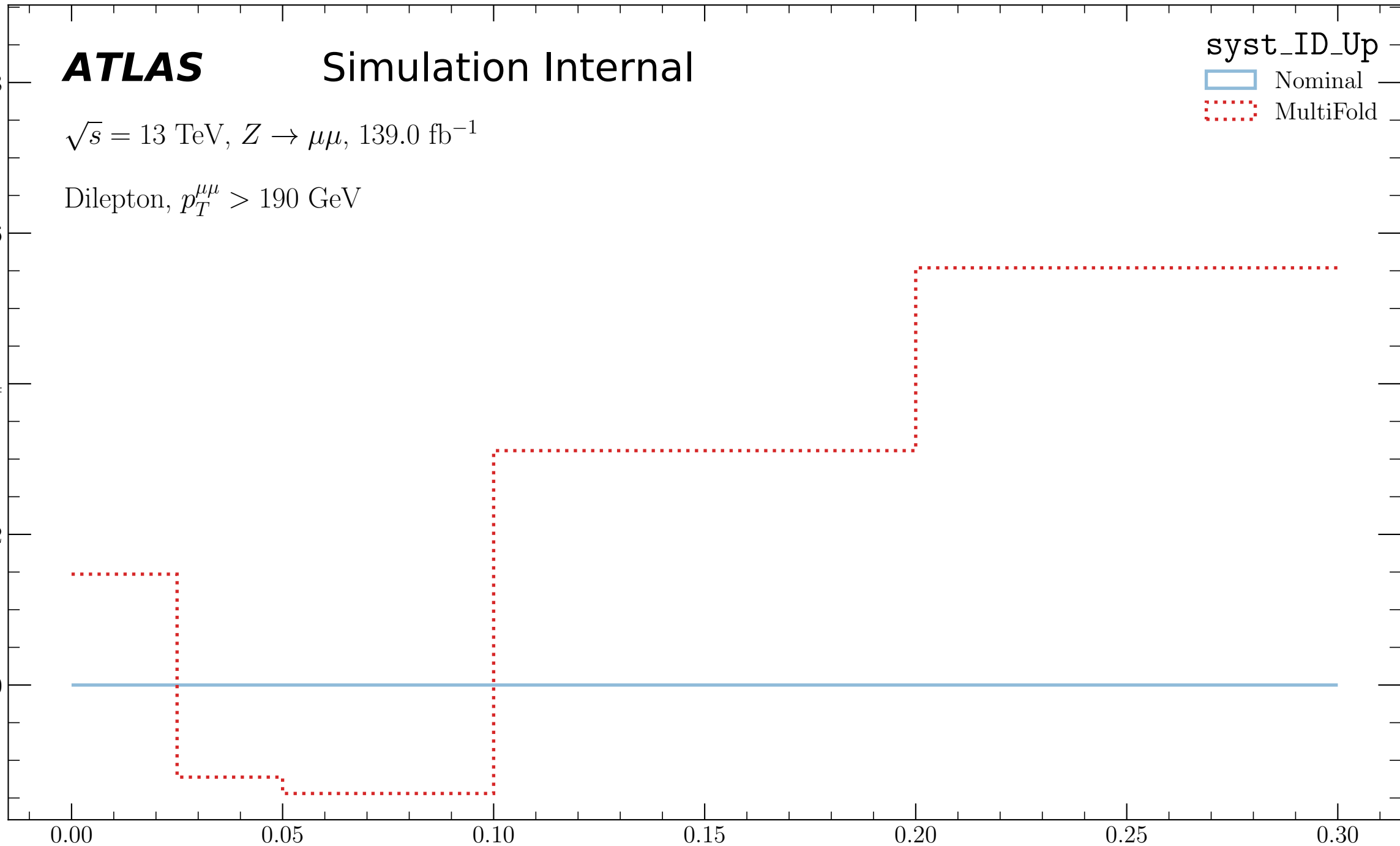
0.15

0.20

0.25

0.30

Leading track jet τ_3

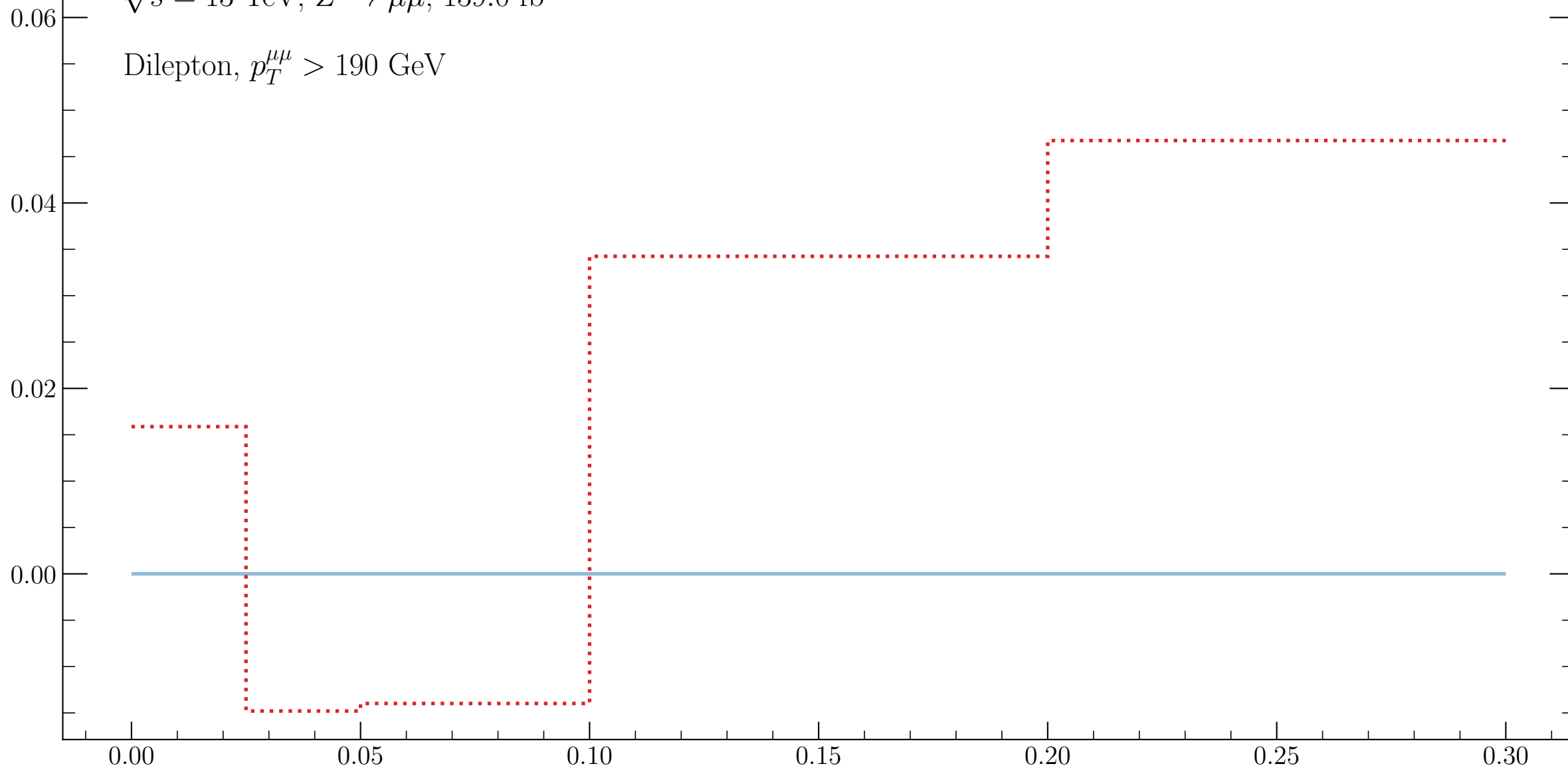


ATLAS

Simulation Internal

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

syst_ID_Down

Nominal
MultiFoldLeading track jet τ_3

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

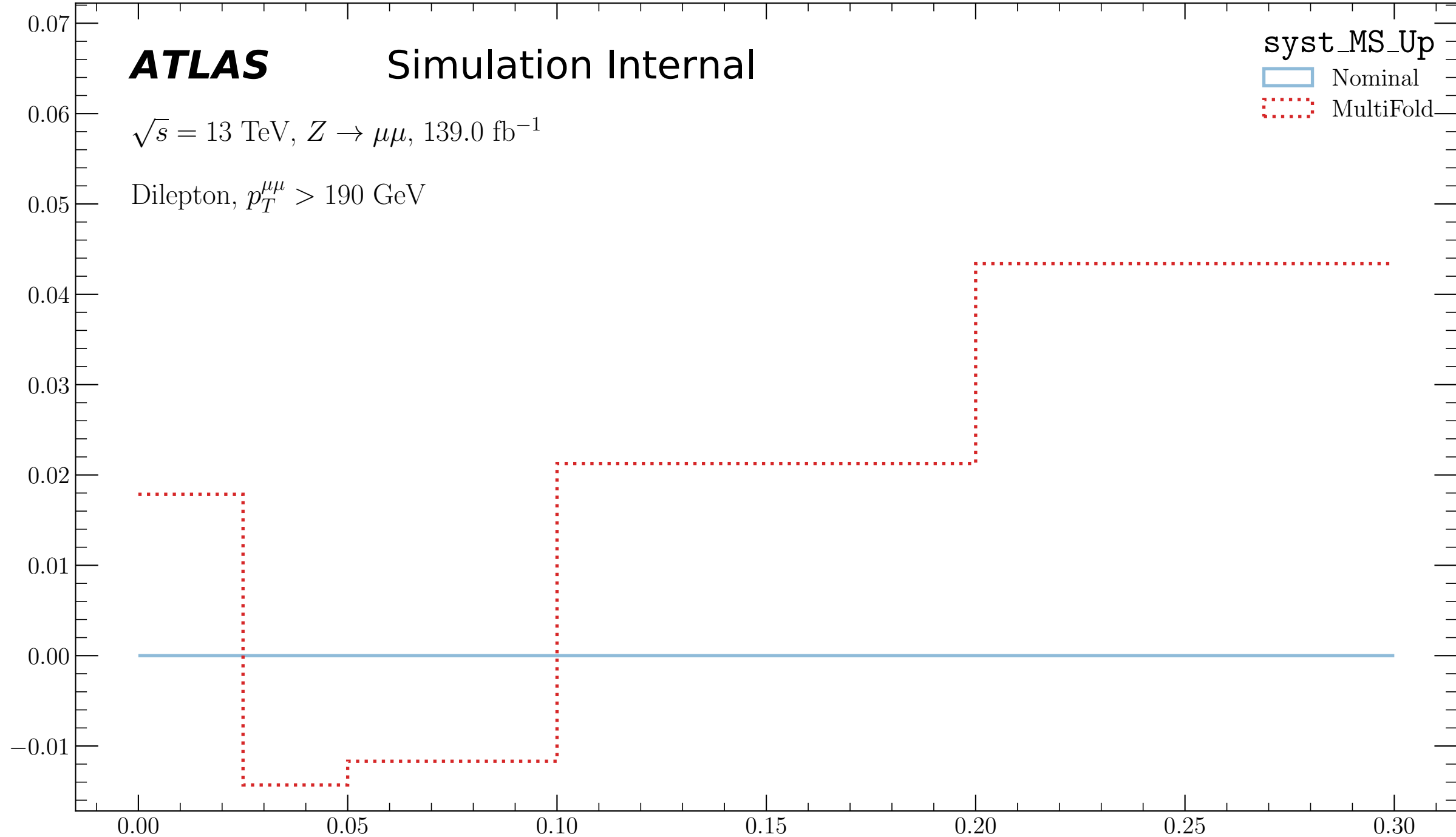
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Up

Nominal

MultiFold



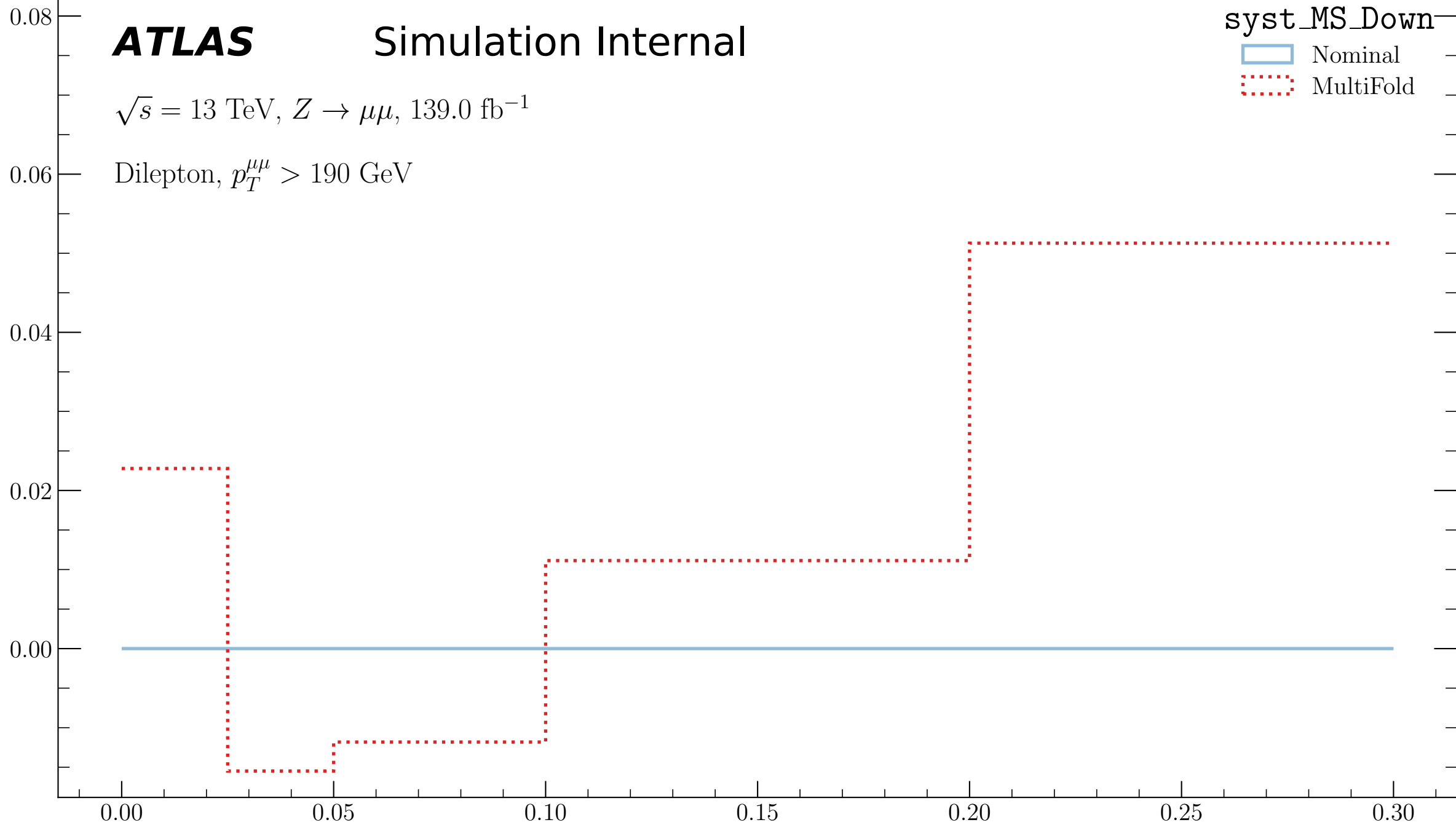
Leading track jet τ_3

ATLAS

Simulation Internal

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

syst_MS_Down

Nominal
MultiFoldLeading track jet τ_3

Relative Systematic Effect (MultiFold)

ATLAS

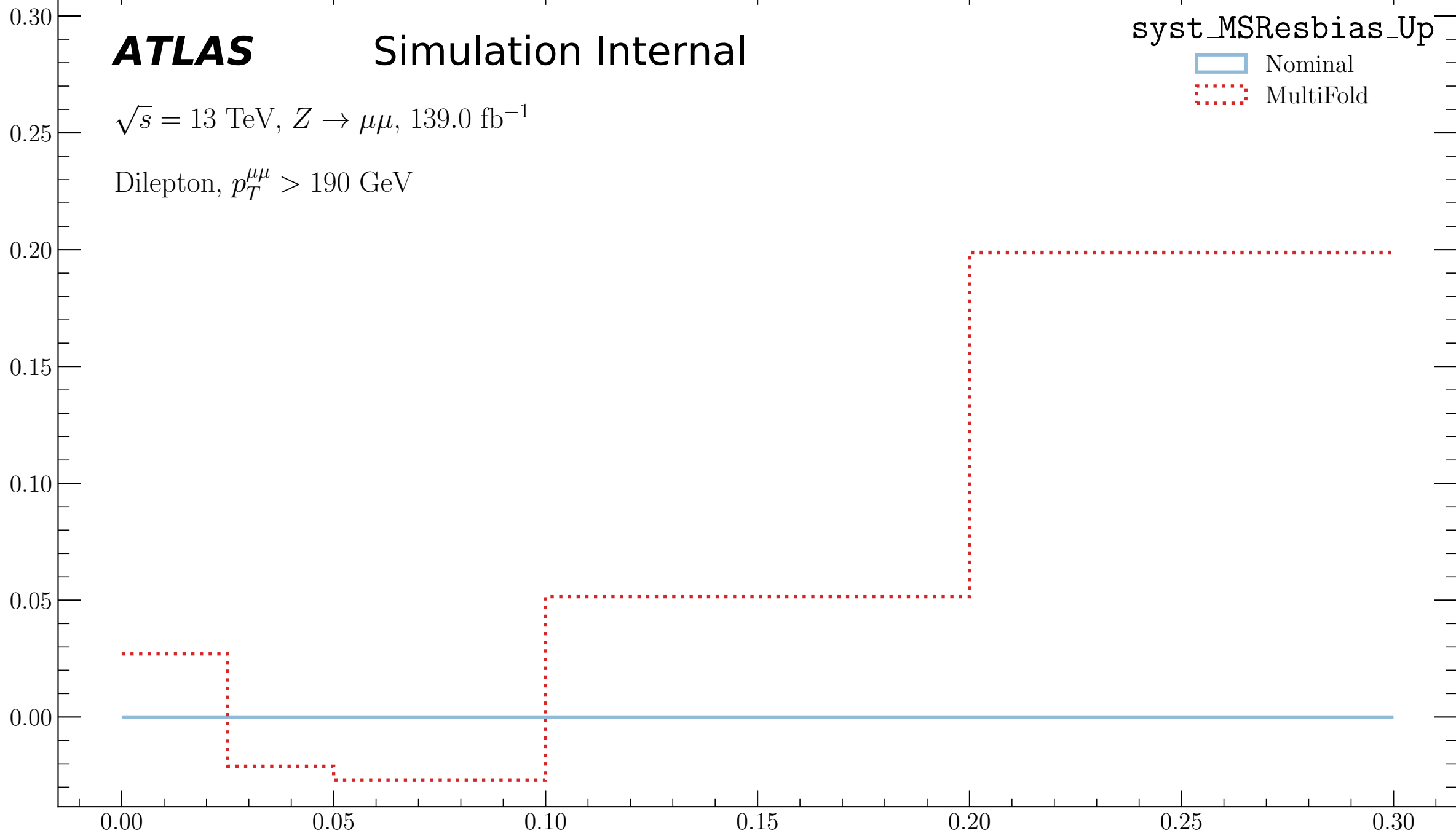
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Up

Nominal
MultiFold

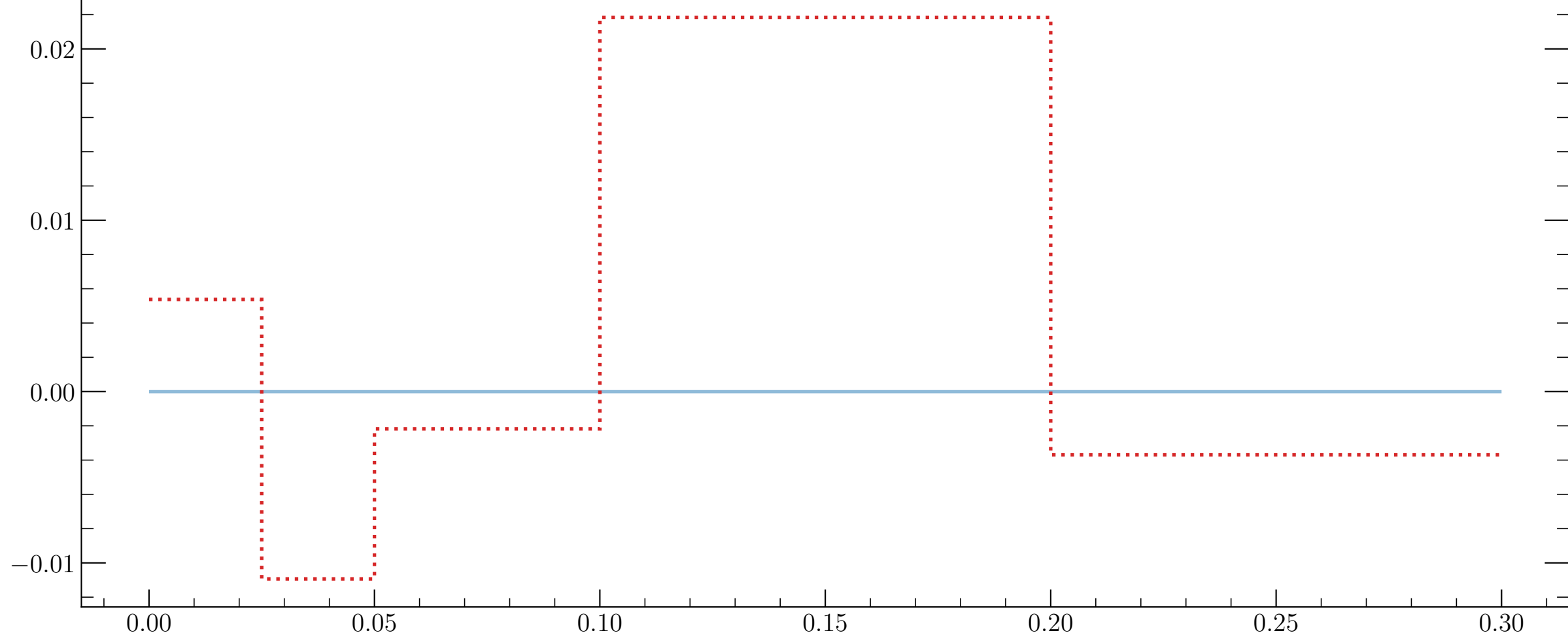


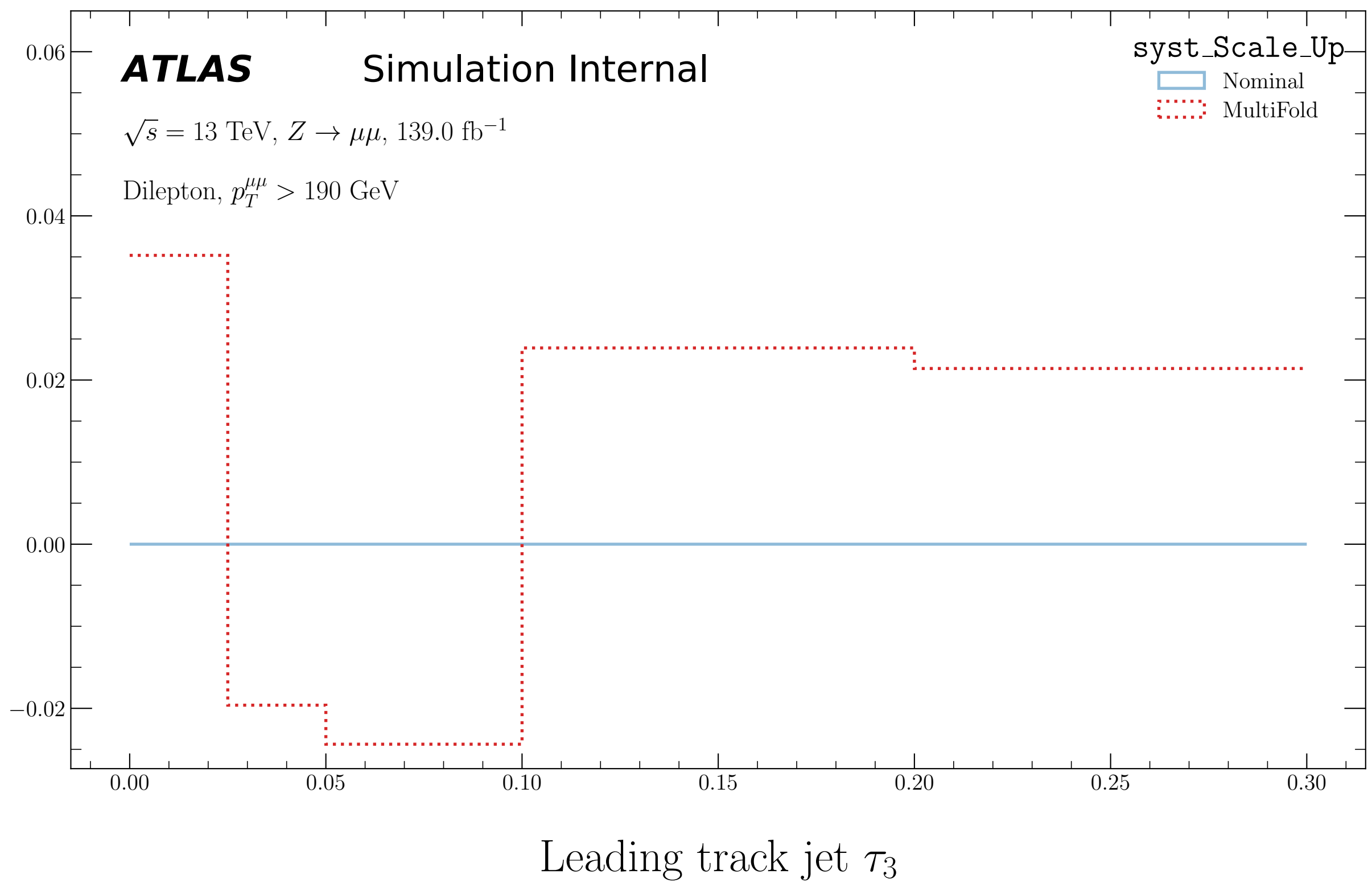
Leading track jet τ_3

ATLAS

Simulation Internal

syst_MSResbias_Down

 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$  Nominal
MultiFoldLeading track jet τ_3



Relative Systematic Effect (MultiFold)

ATLAS

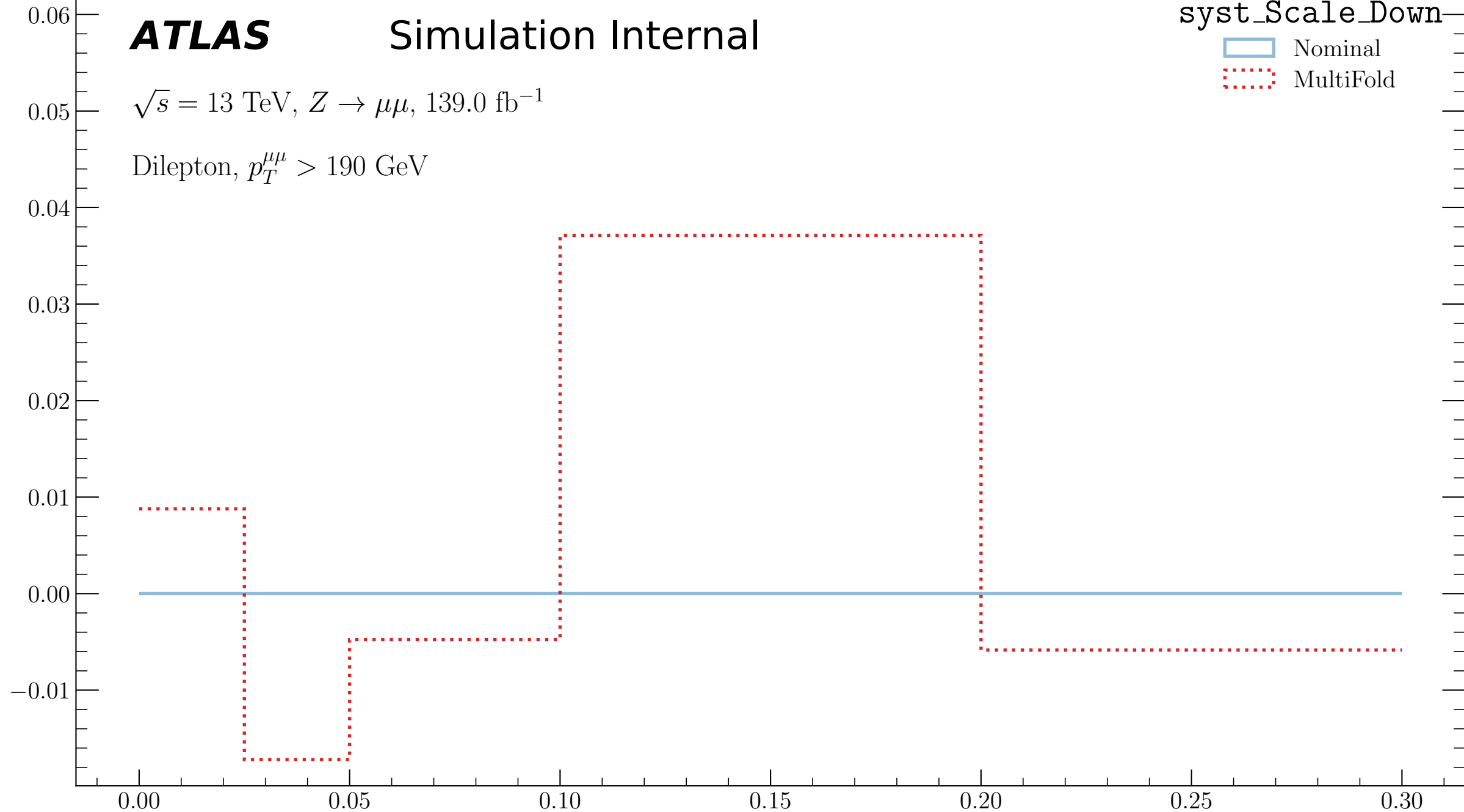
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Down

Nominal
MultiFold



Leading track jet τ_3

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

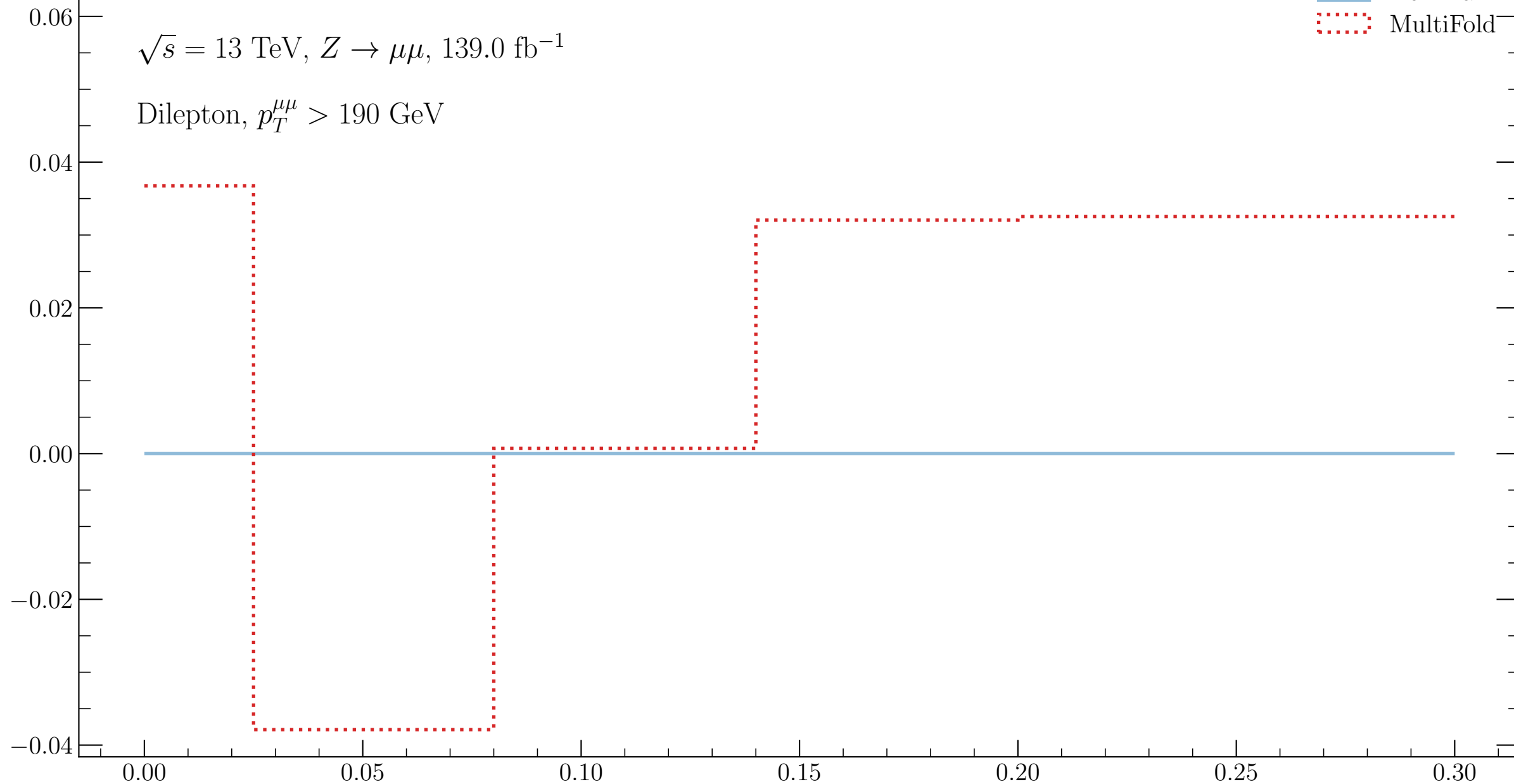
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Up

Nominal

MultiFold



Subleading track jet τ_3

Relative Systematic Effect (MultiFold)

ATLAS

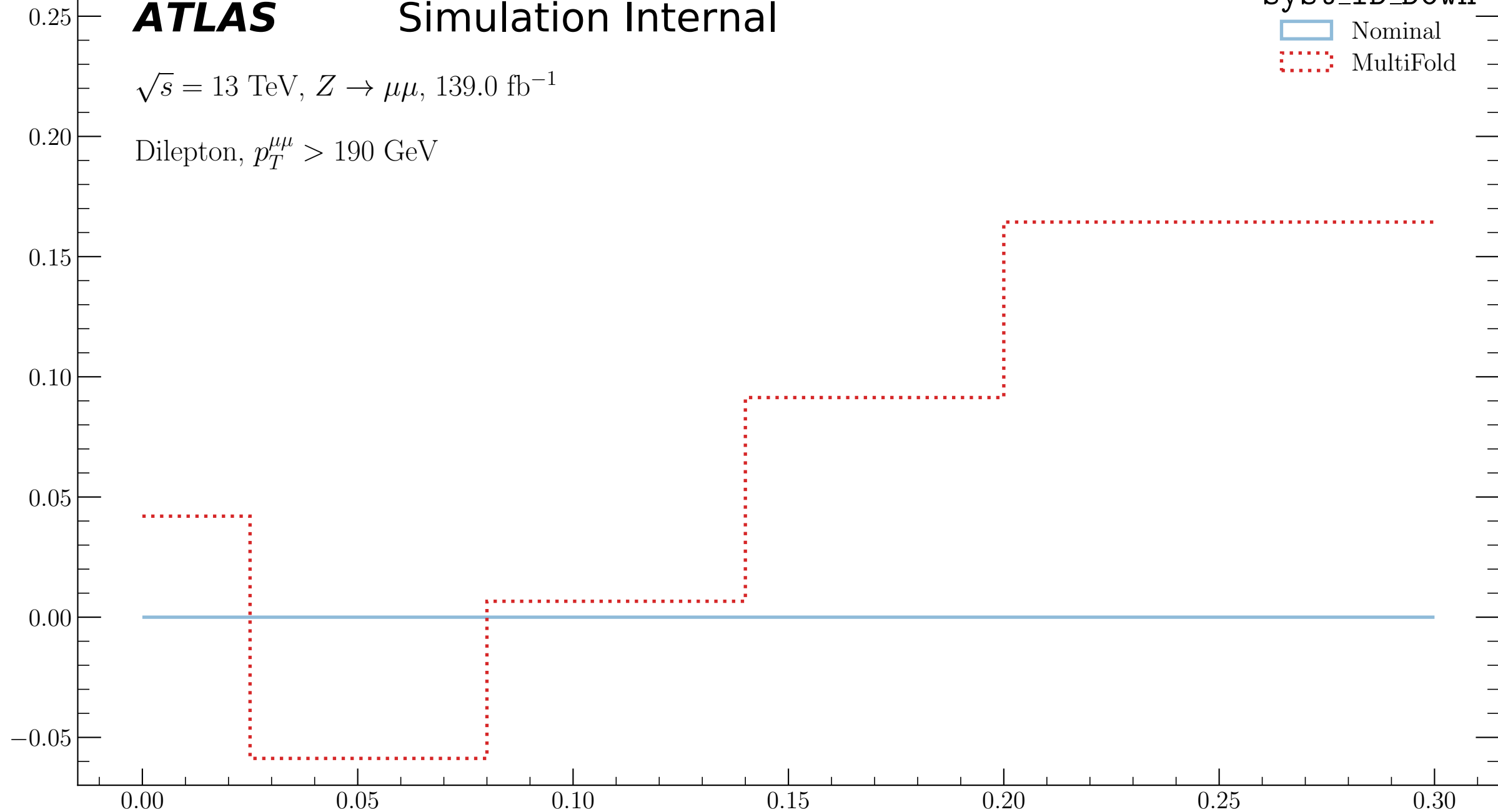
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Down

Nominal
MultiFold



Subleading track jet τ_3

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

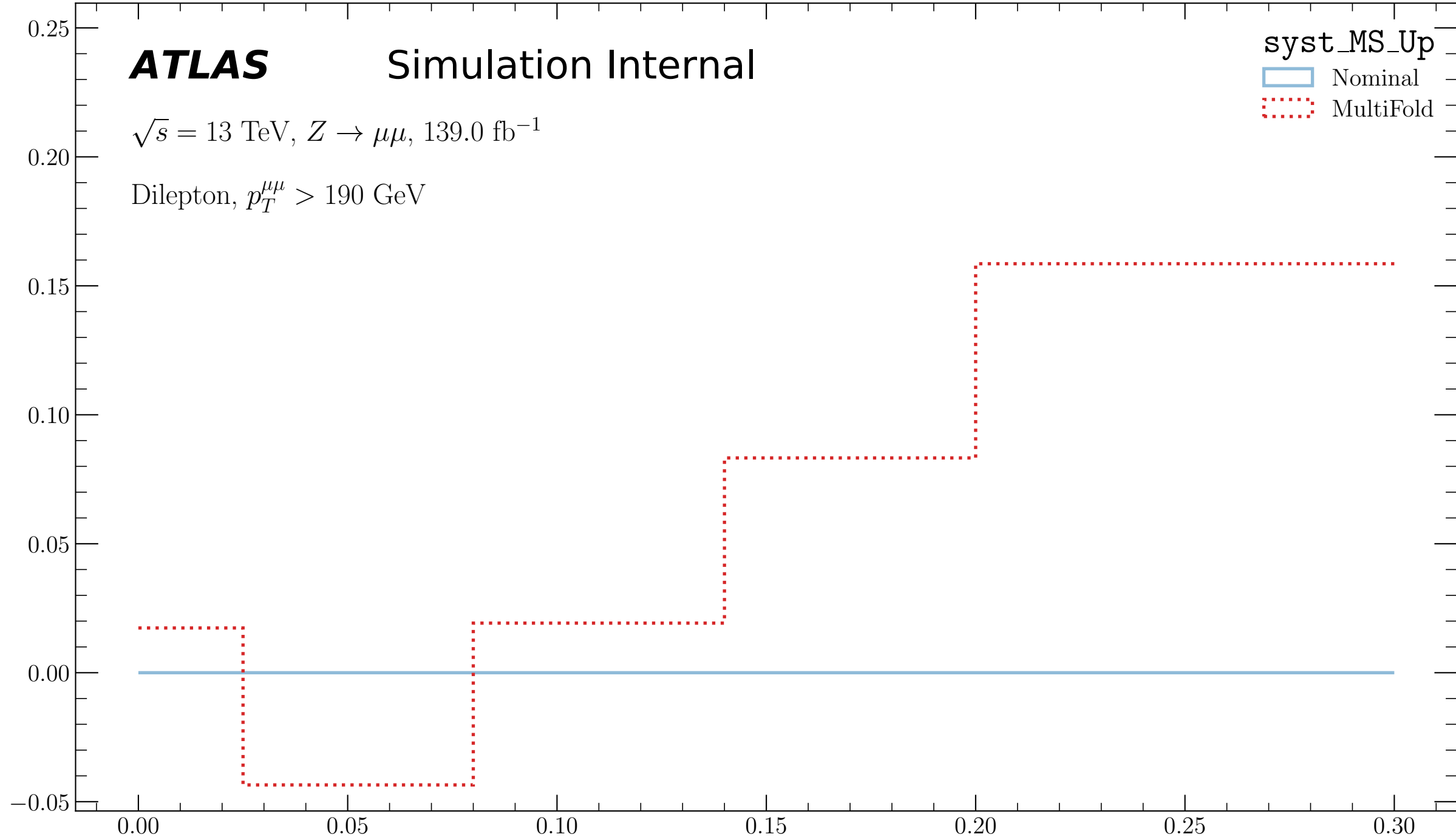
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Up

Nominal

MultiFold



Subleading track jet τ_3

Relative Systematic Effect (MultiFold)

ATLAS

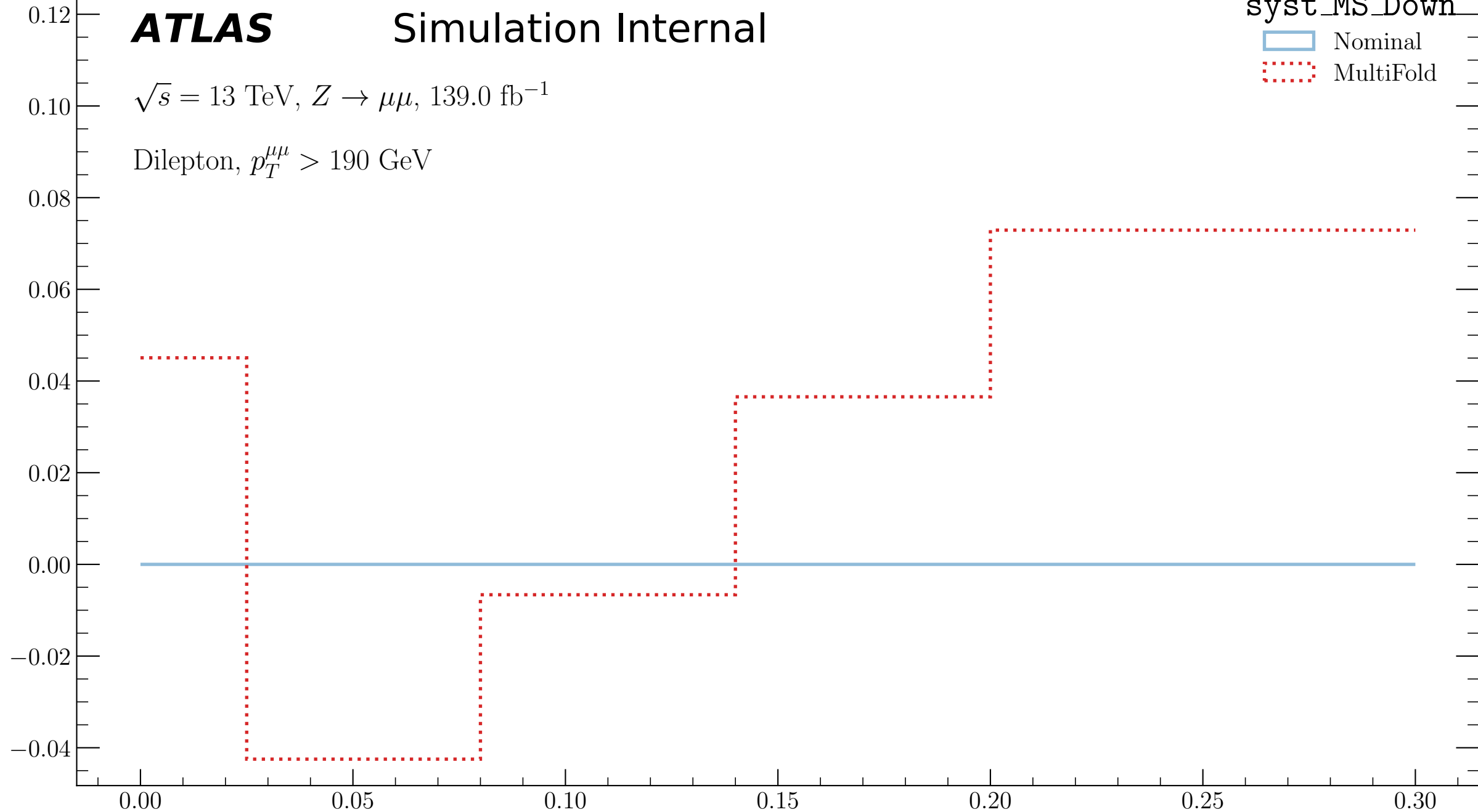
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Down

Nominal
MultiFold



Subleading track jet τ_3

Relative Systematic Effect (MultiFold)

ATLAS

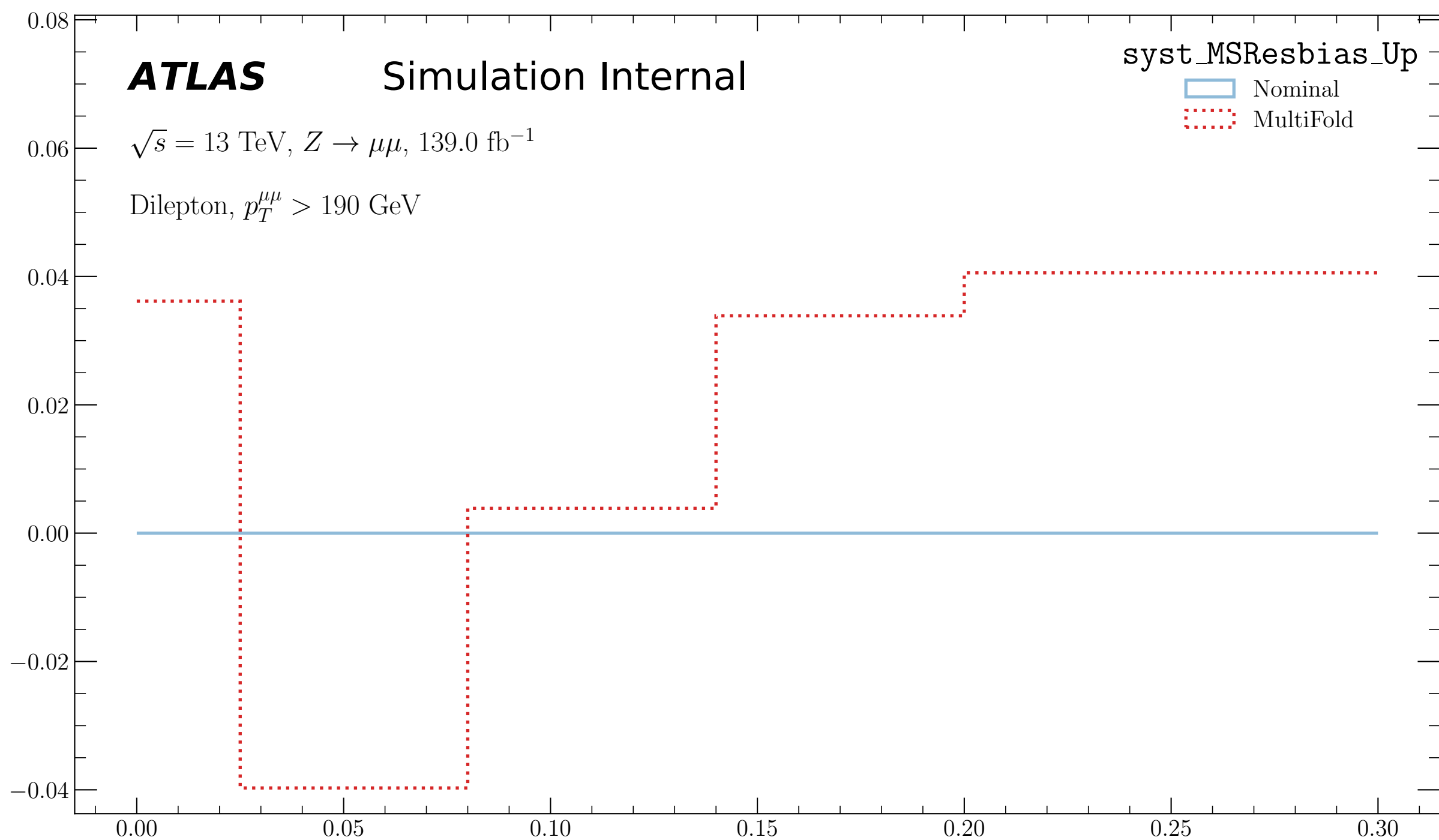
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Up

Nominal
MultiFold



Subleading track jet τ_3

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Down

Nominal
MultiFold

0.15

0.10

0.05

0.00

0.00

0.05

0.10

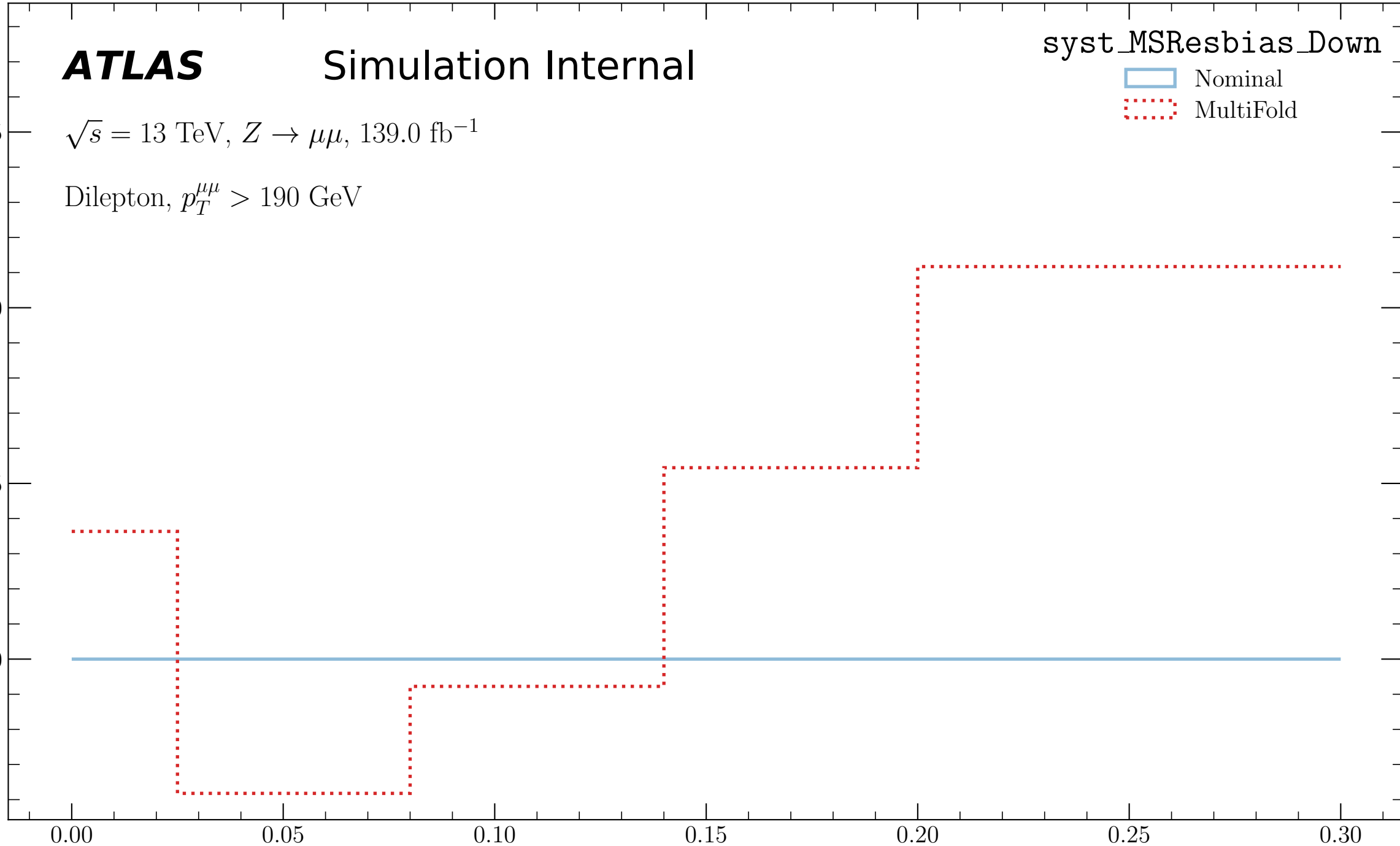
0.15

0.20

0.25

0.30

Subleading track jet τ_3



Relative Systematic Effect (MultiFold)

ATLAS

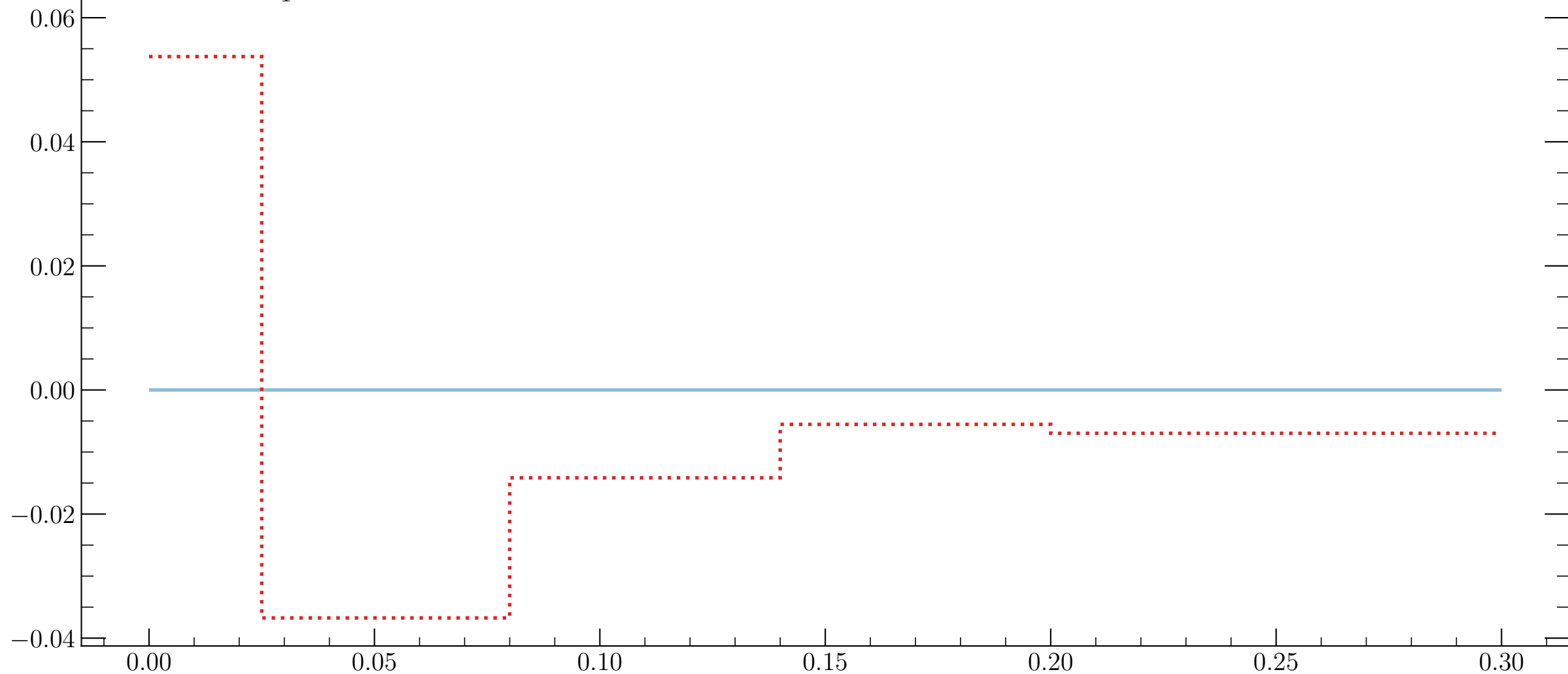
Simulation Internal

syst_Scale_Up

Nominal
MultiFold

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$



Subleading track jet τ_3

Relative Systematic Effect (MultiFold)

ATLAS

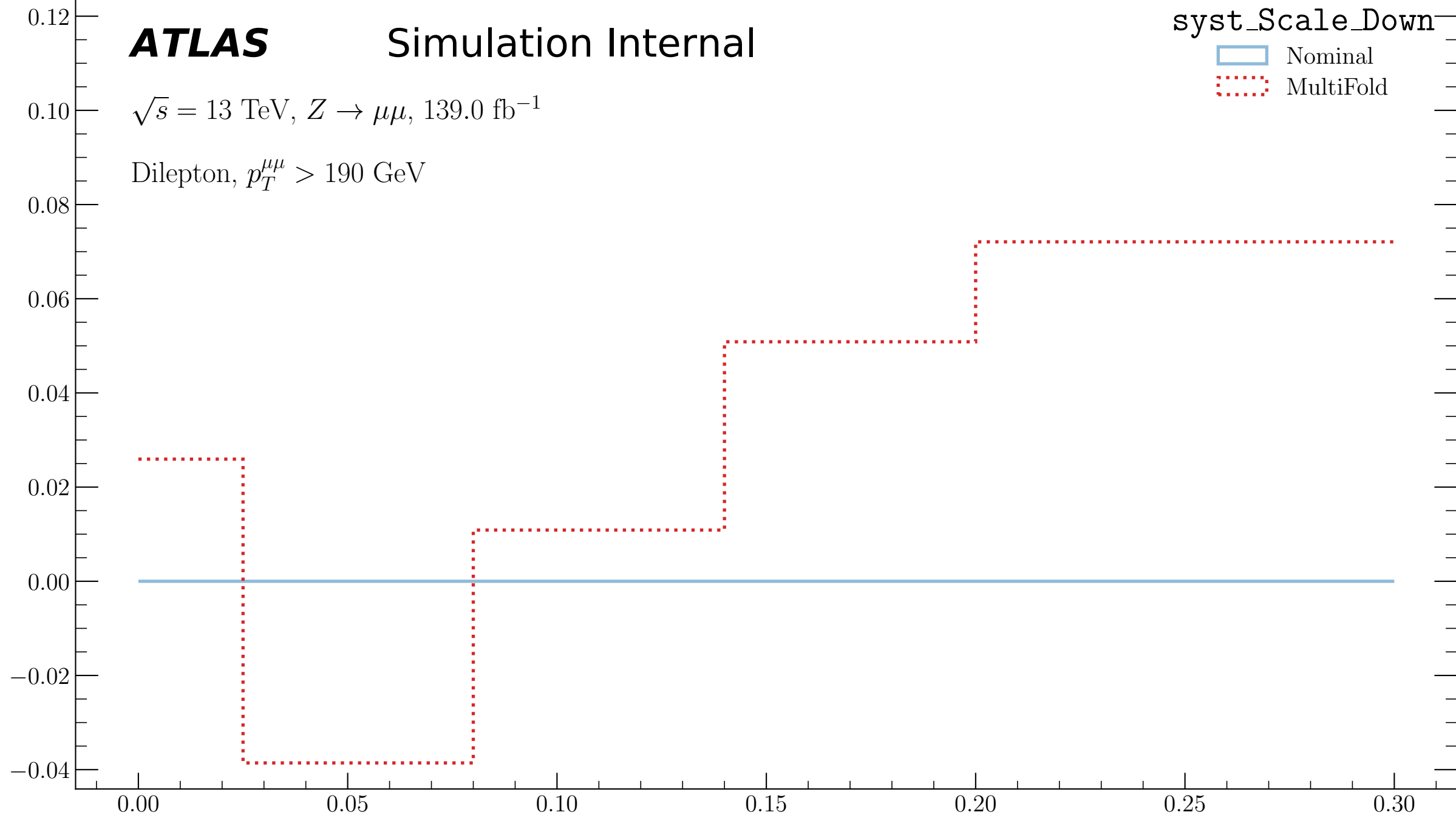
Simulation Internal

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

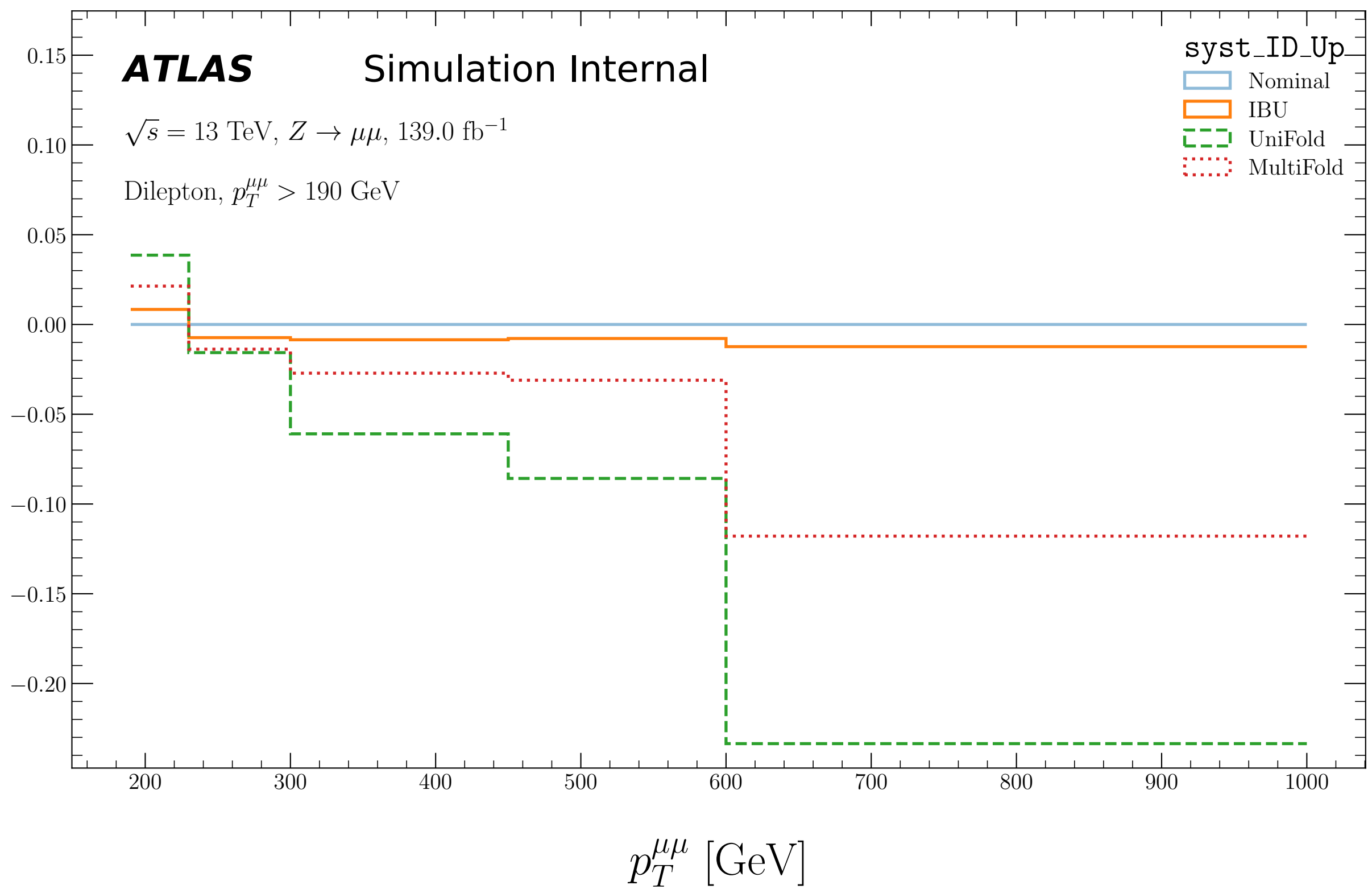
Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Down

Nominal
MultiFold



Subleading track jet τ_3



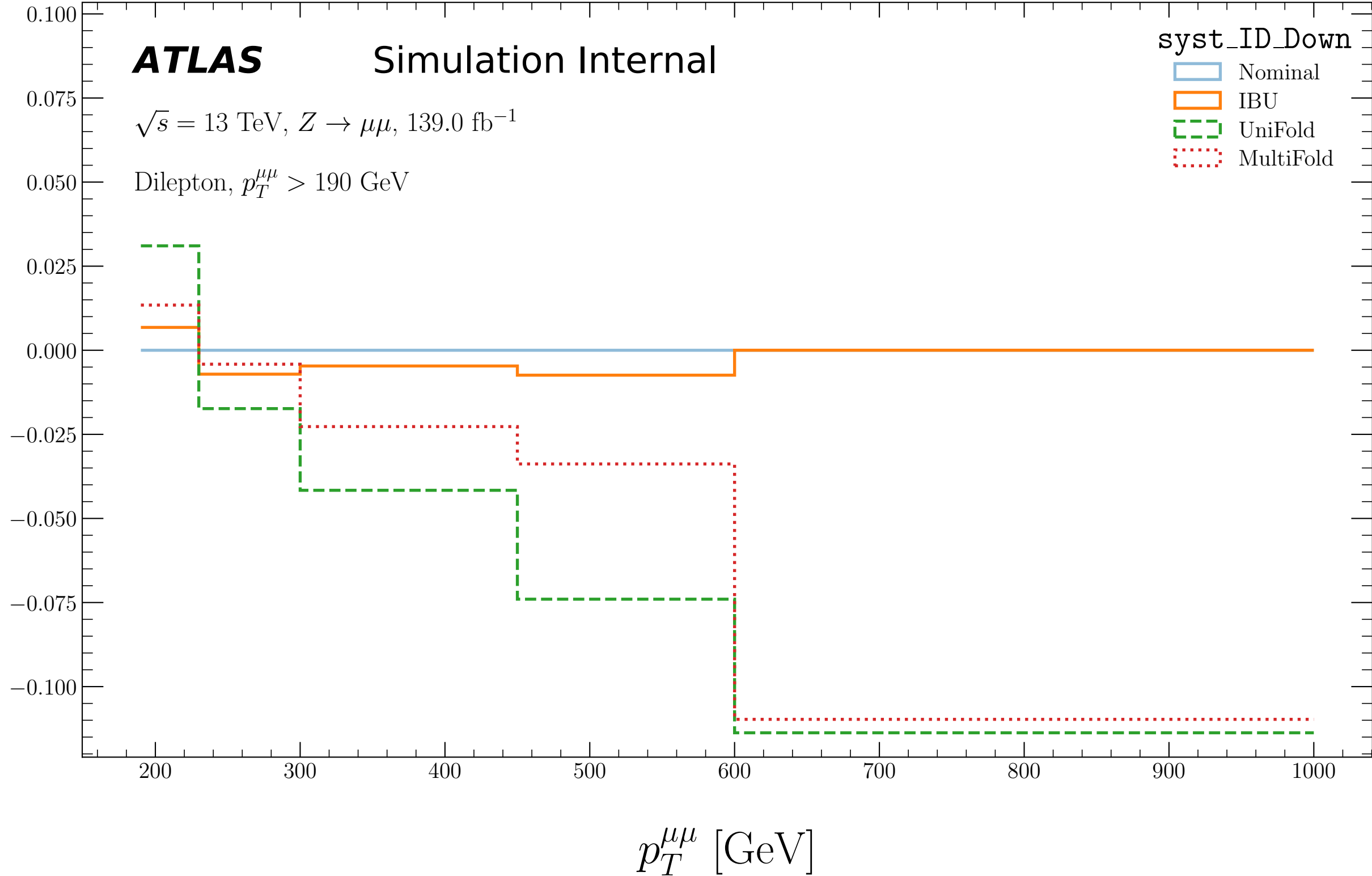
ATLAS

Simulation Internal

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

syst_ID_Down

- Nominal
- IBU
- UniFold
- MultiFold



ATLAS

Simulation Internal

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

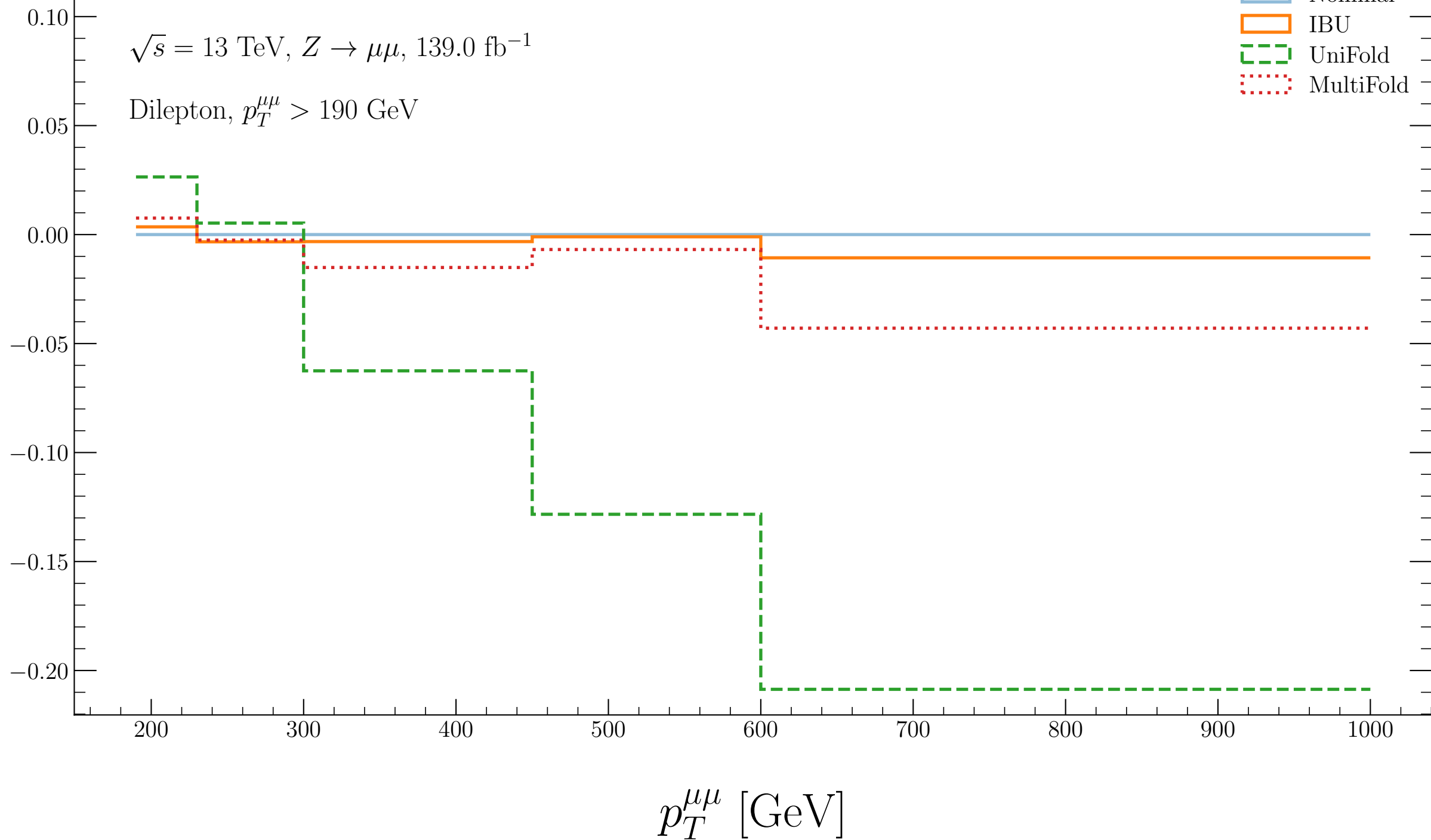
syst_MS_Up

Nominal

IBU

UniFold

MultiFold



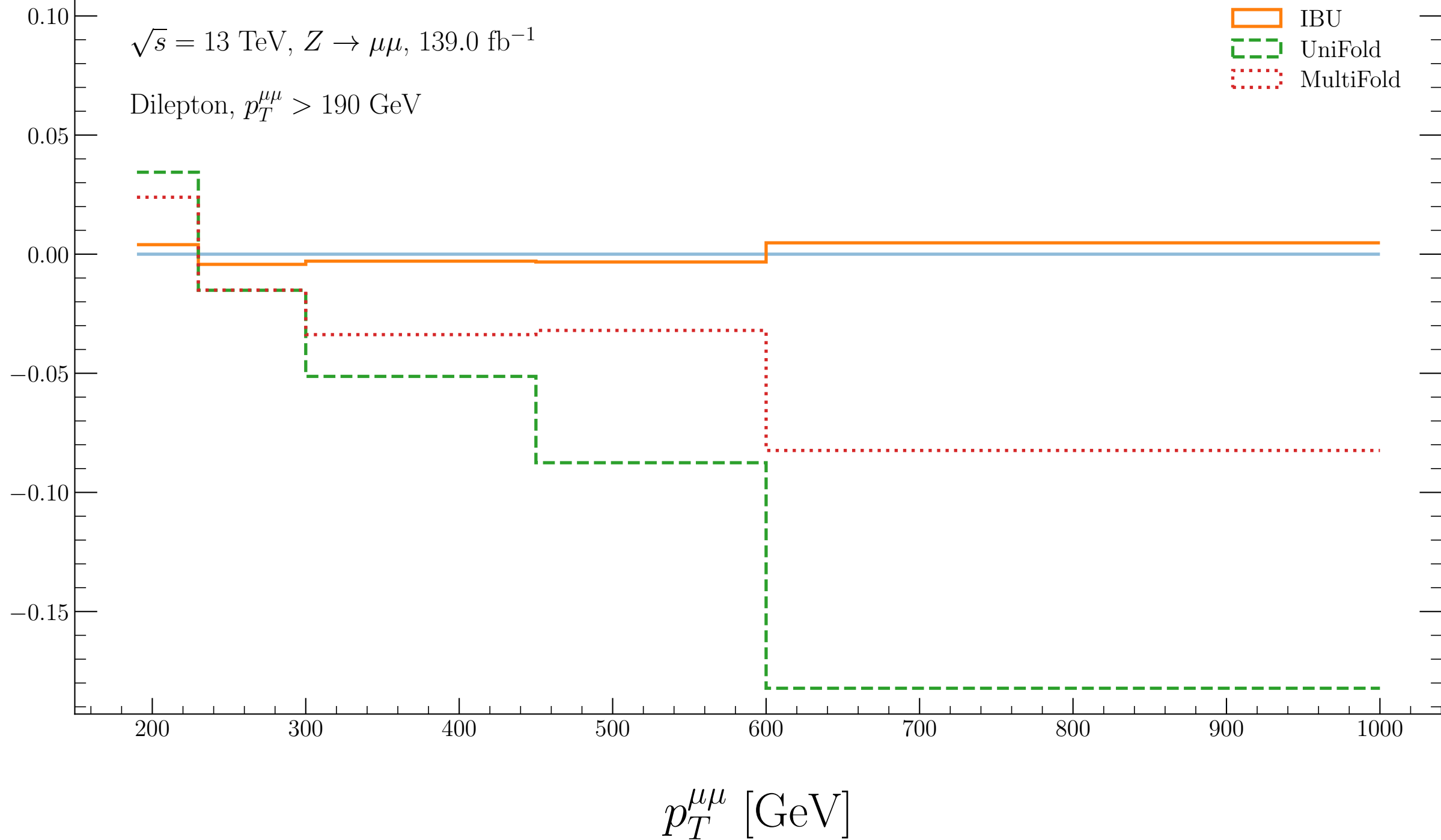
ATLAS

Simulation Internal

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

syst_MS_Down

- Nominal
- IBU
- UniFold
- MultiFold



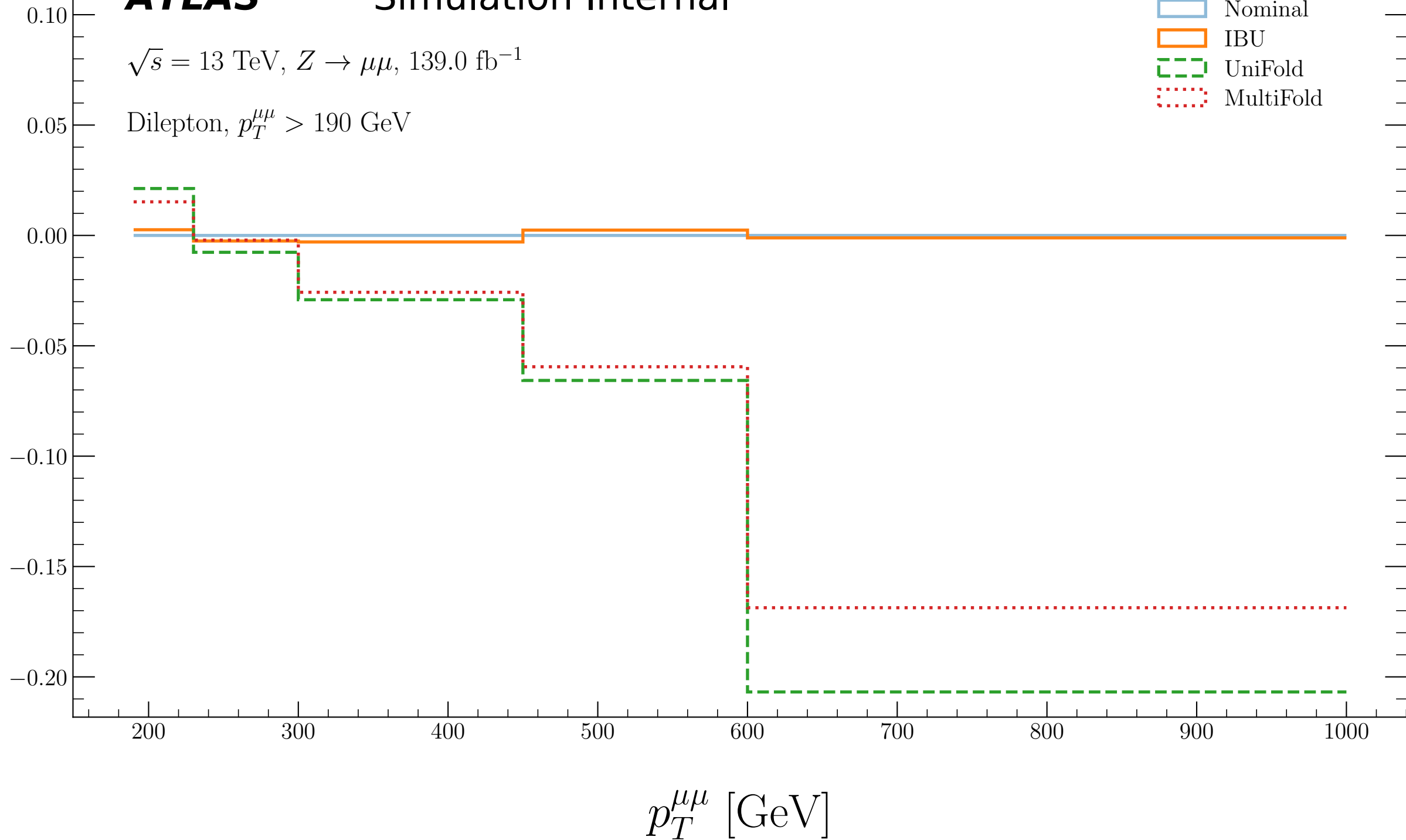
ATLAS

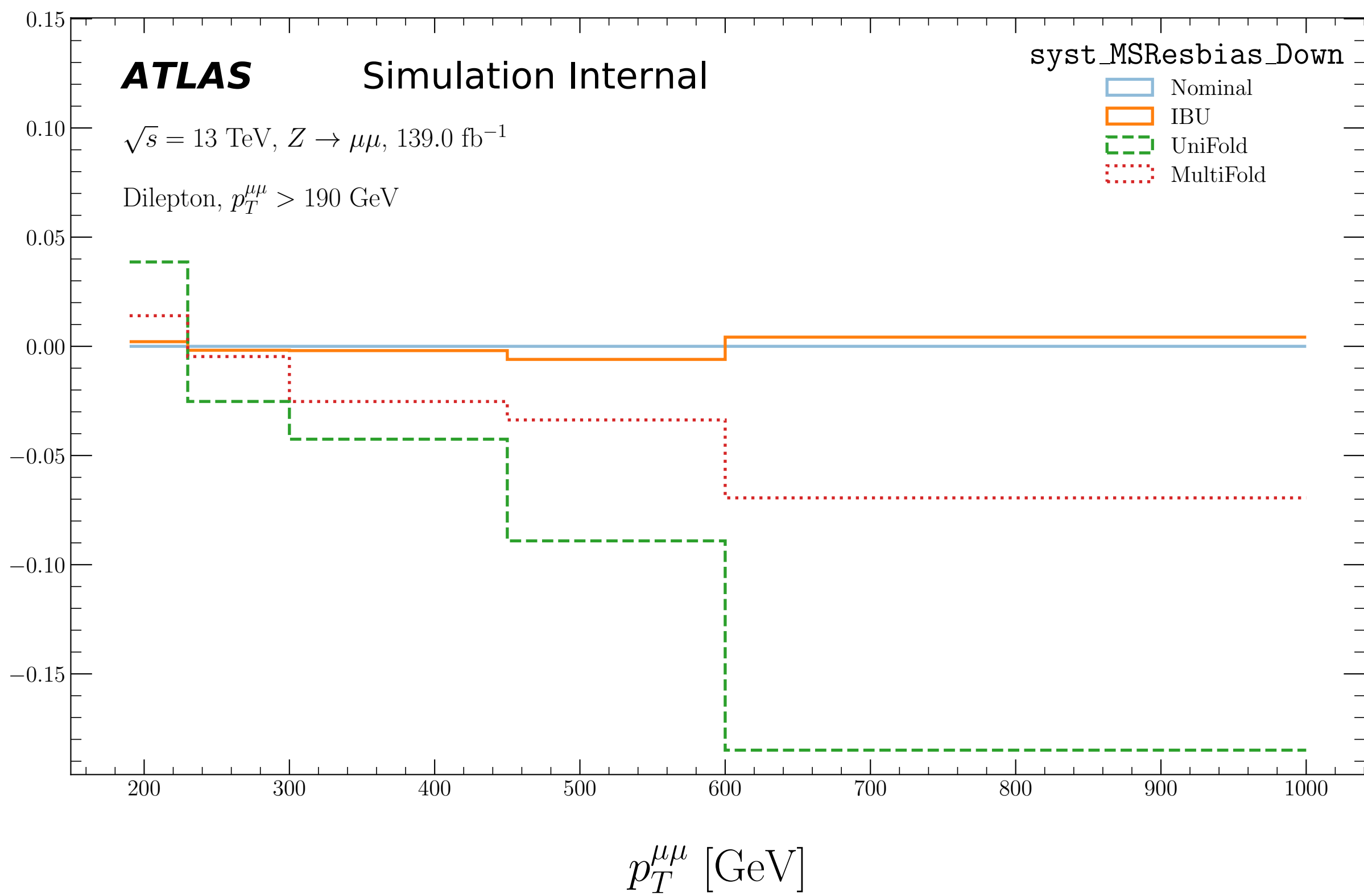
Simulation Internal

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

syst_MSResbias_Up

- Nominal
- IBU
- UniFold
- MultiFold





ATLAS

Simulation Internal

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

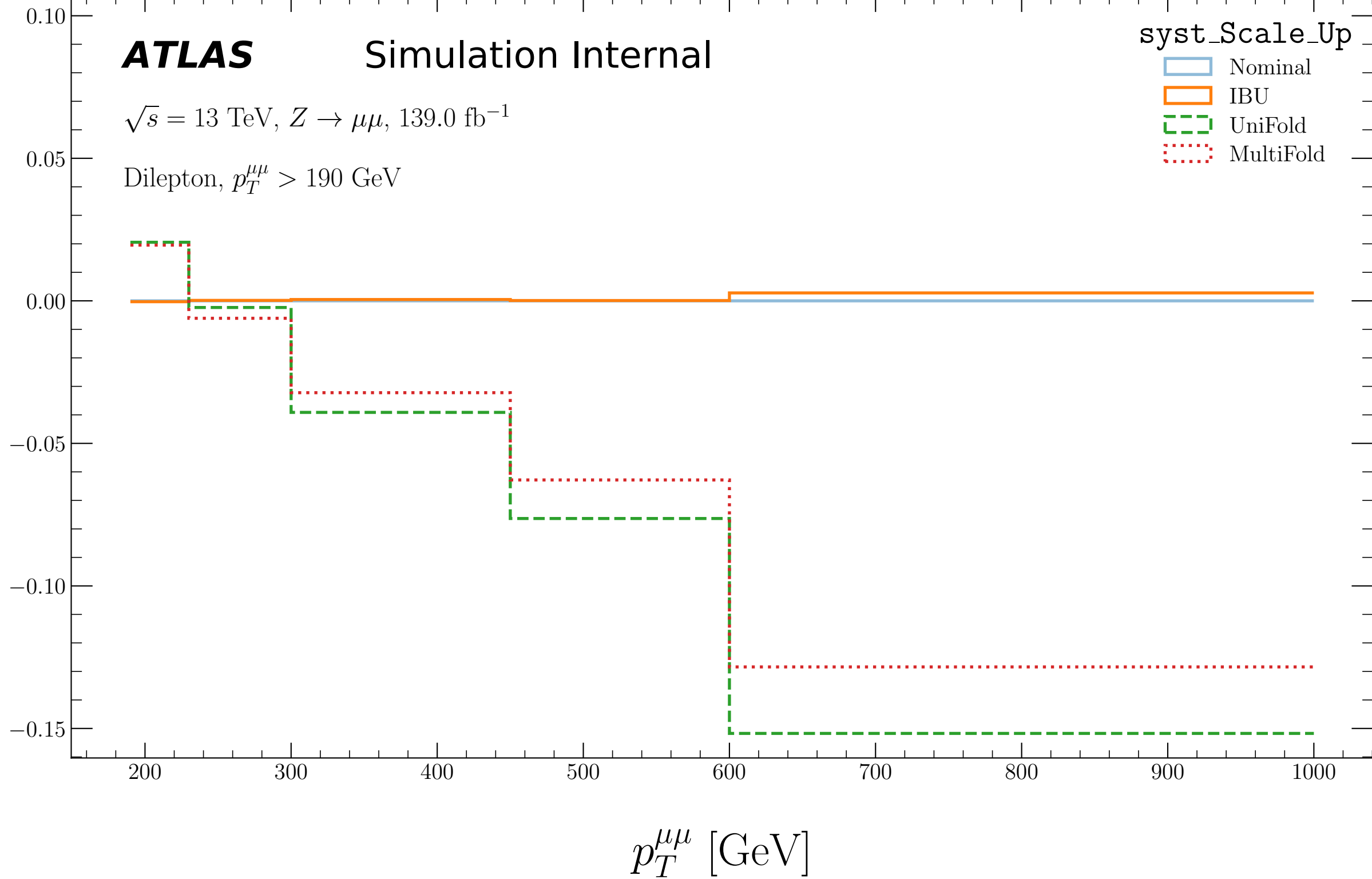
syst_Scale_Up

Nominal

IBU

UniFold

MultiFold



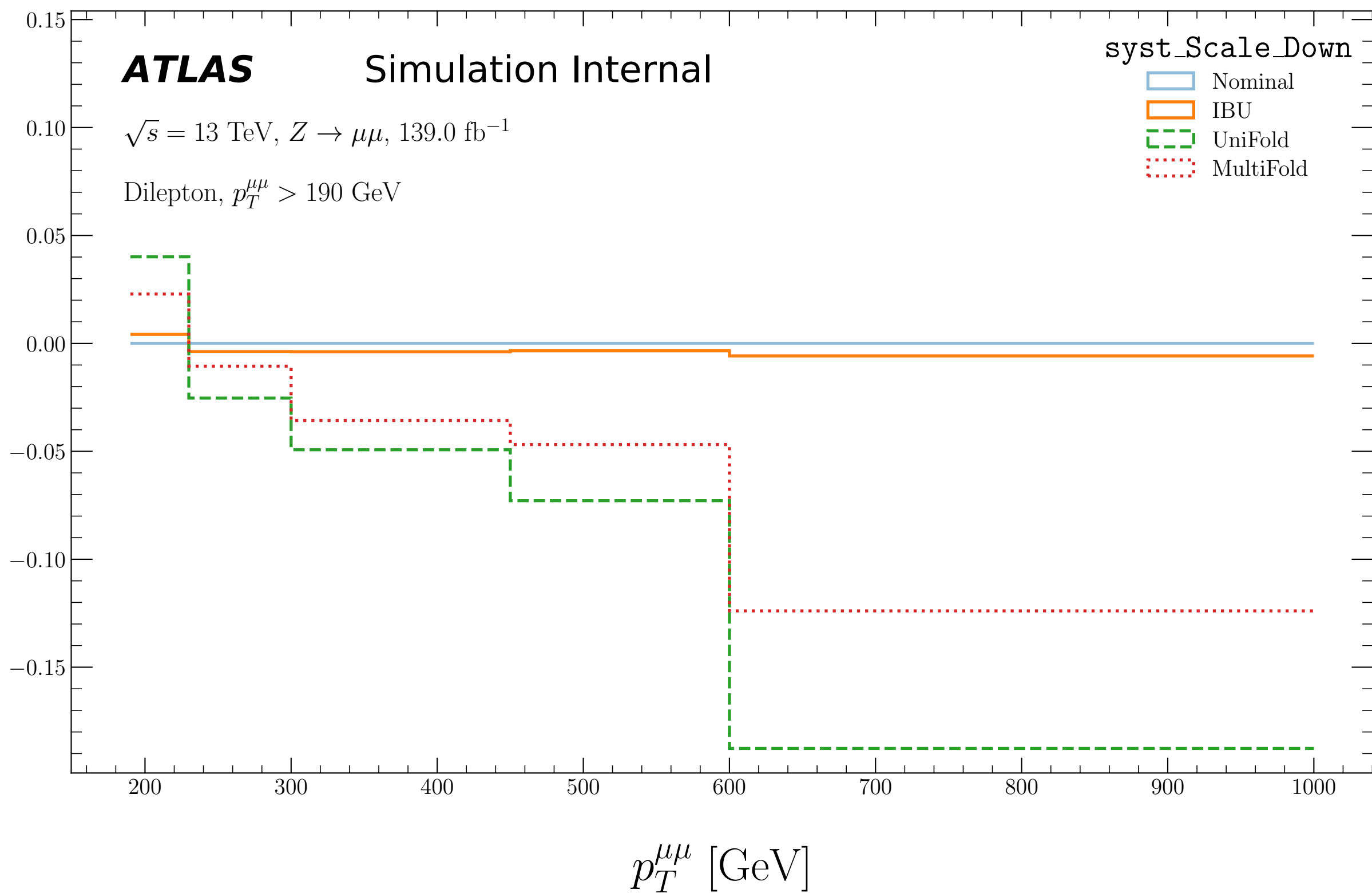
ATLAS

Simulation Internal

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

syst_Scale_Down

- Nominal
- IBU
- UniFold
- MultiFold



Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Up

Nominal

IBU

UniFold

MultiFold

0.150
0.125
0.100
0.075
0.050
0.025
0.000
-0.025

-2

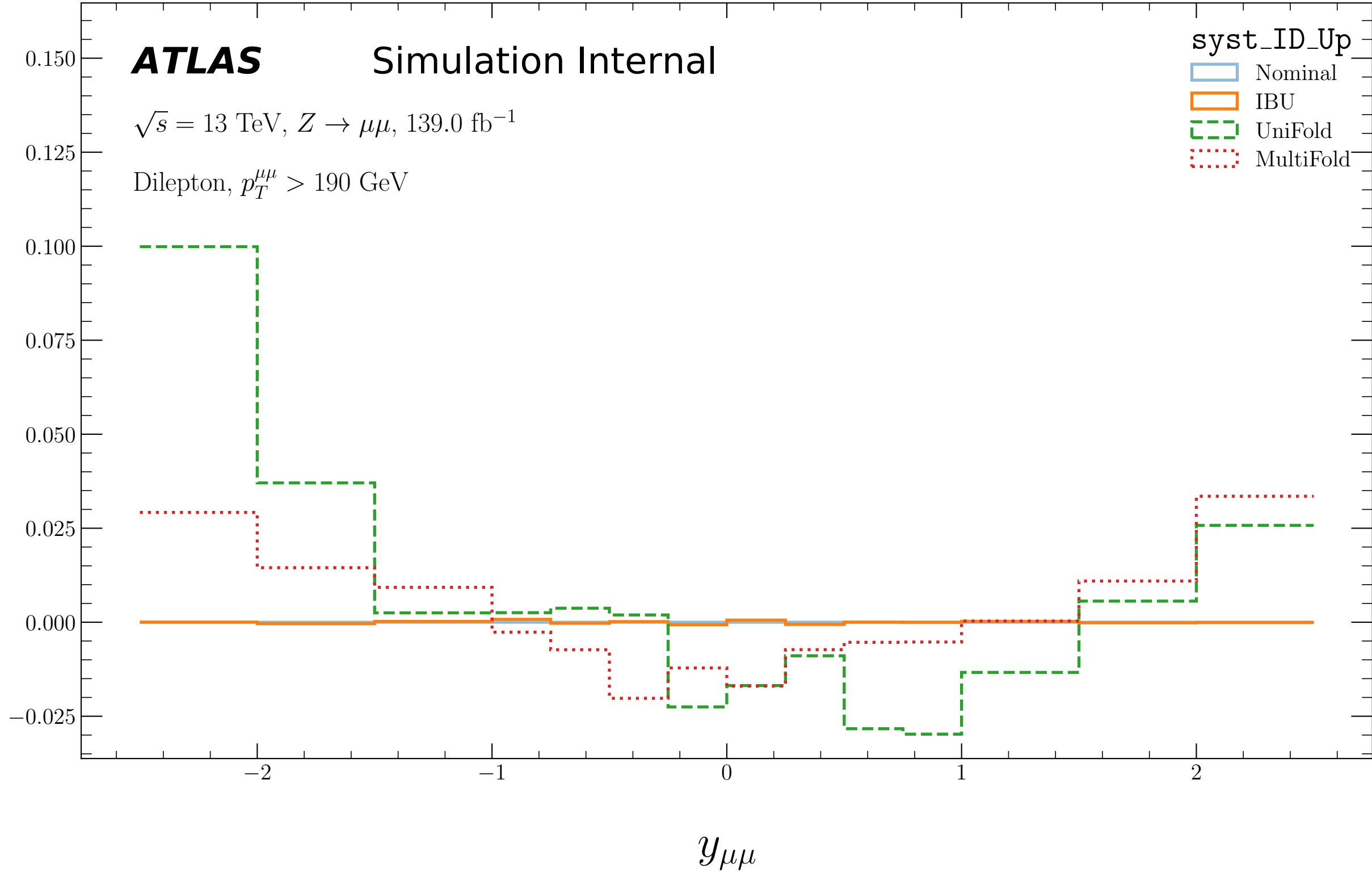
-1

0

1

2

$y_{\mu\mu}$



Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

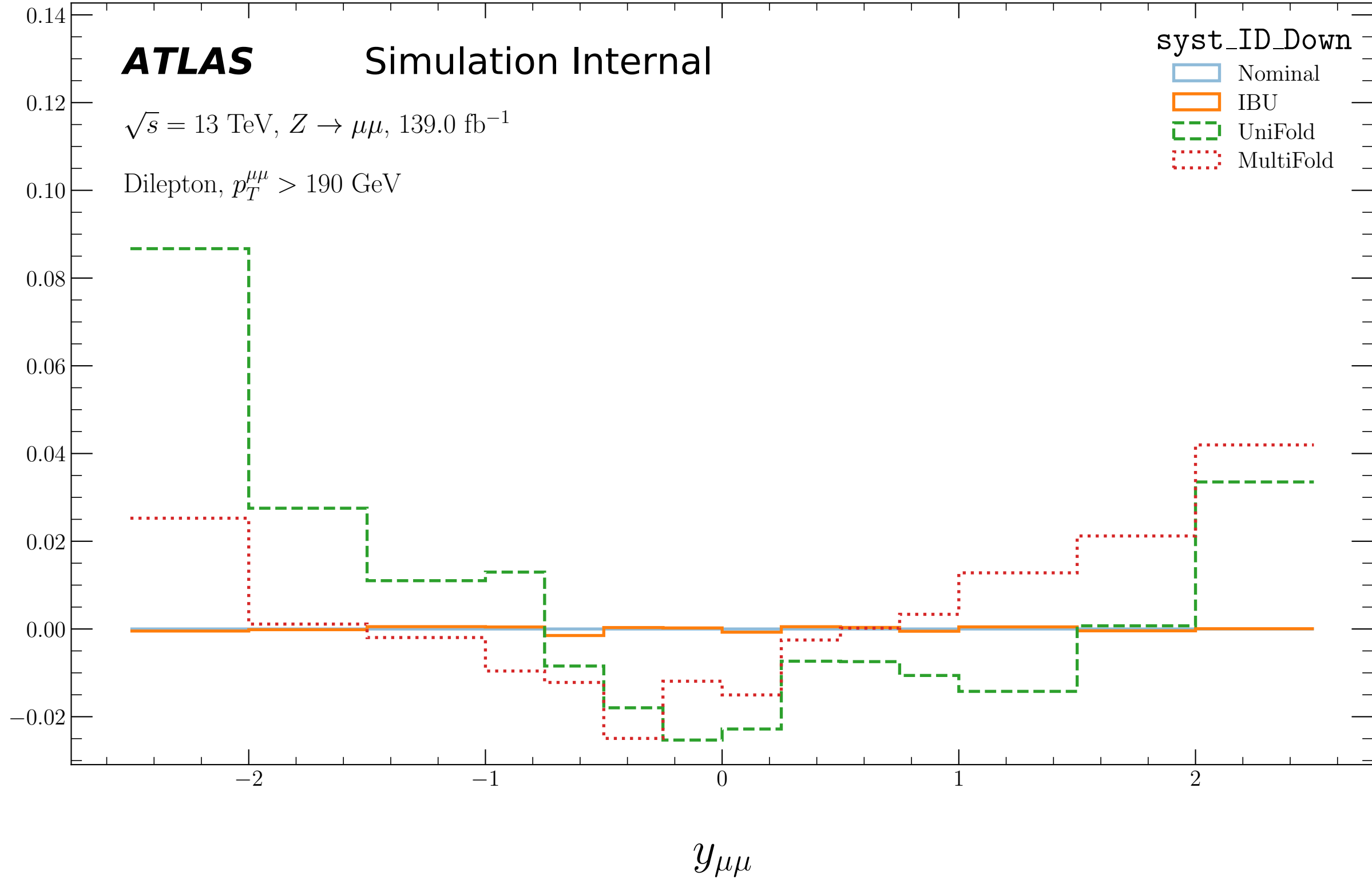
syst_ID_Down

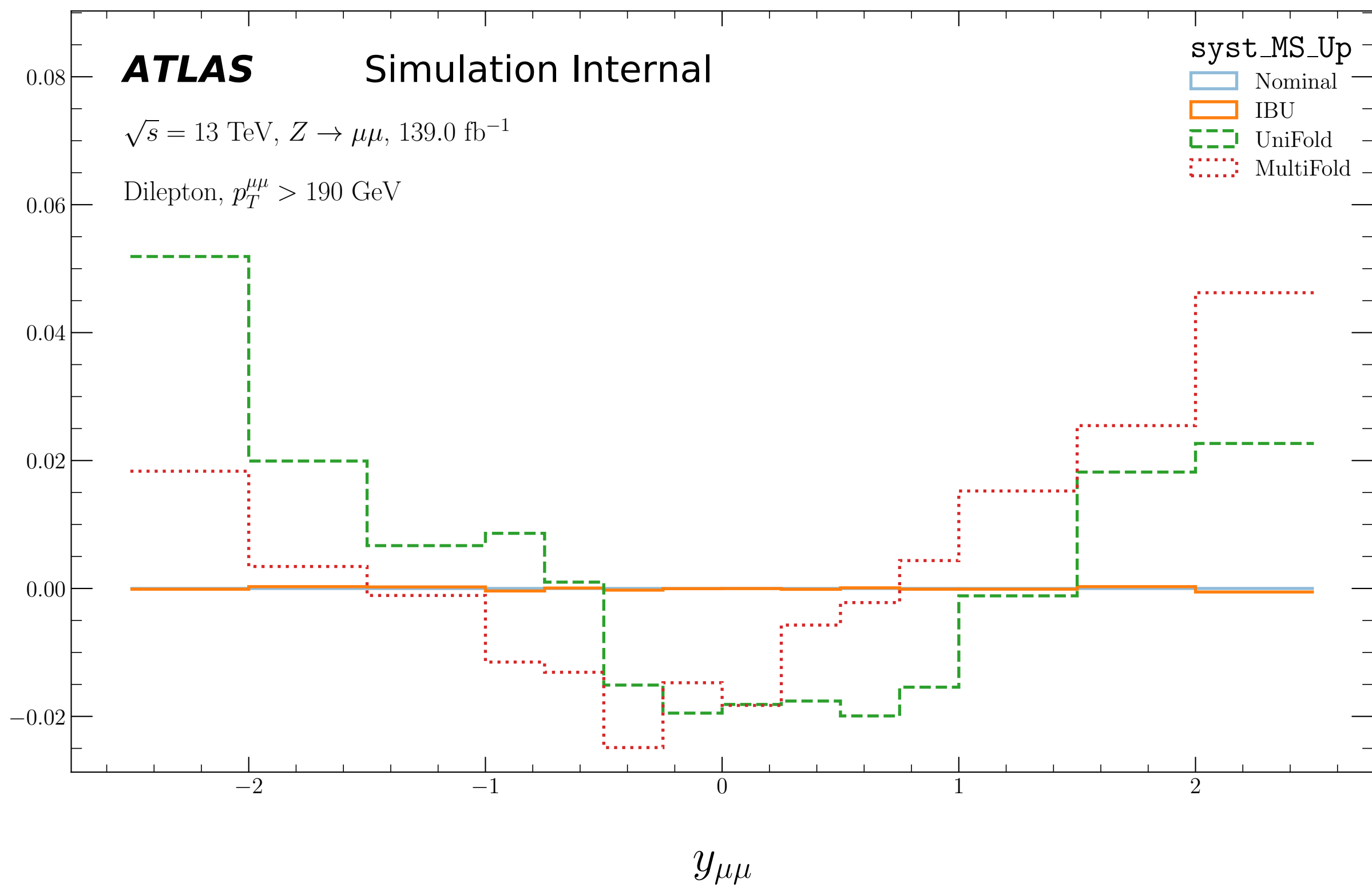
Nominal

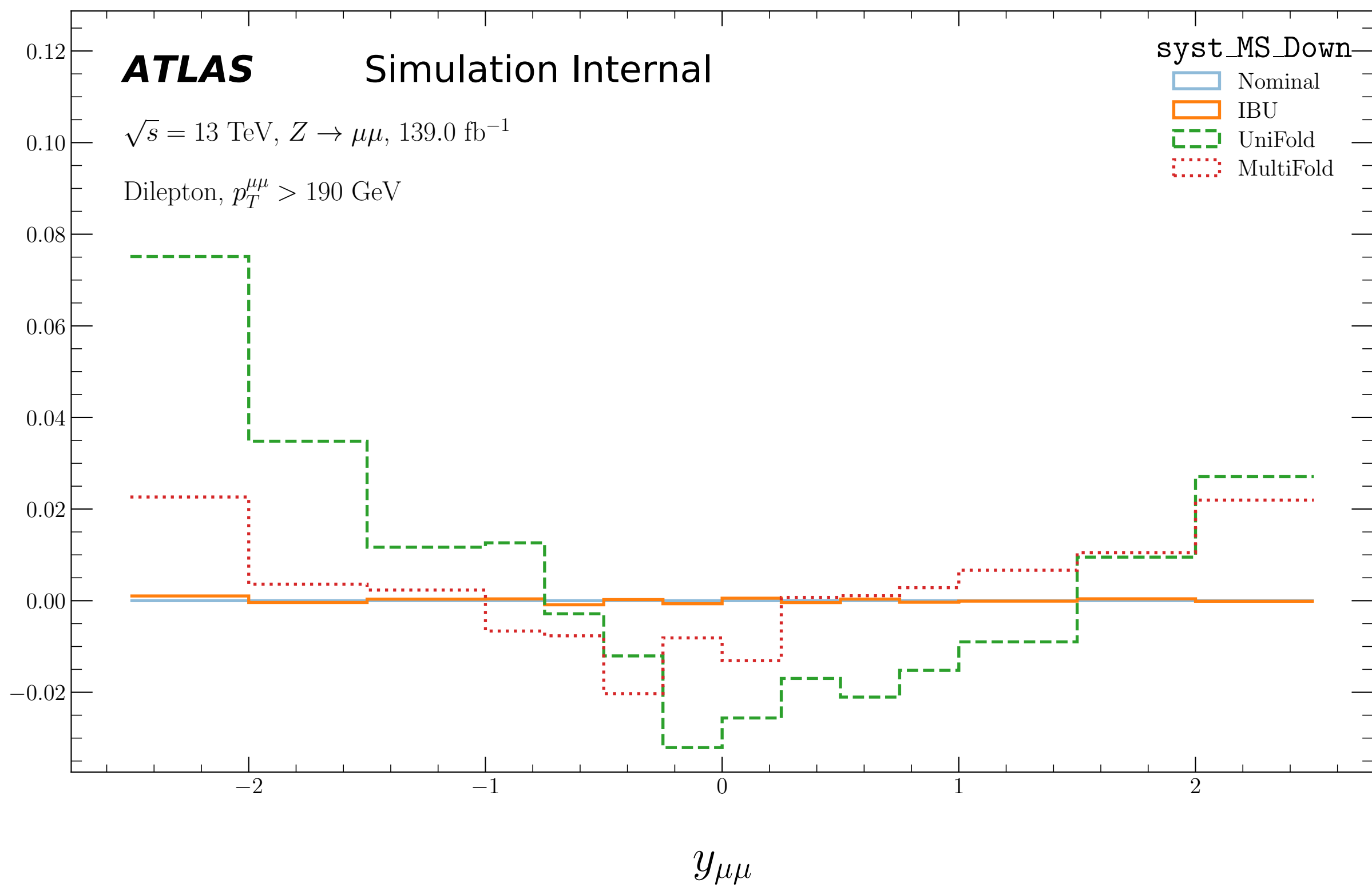
IBU

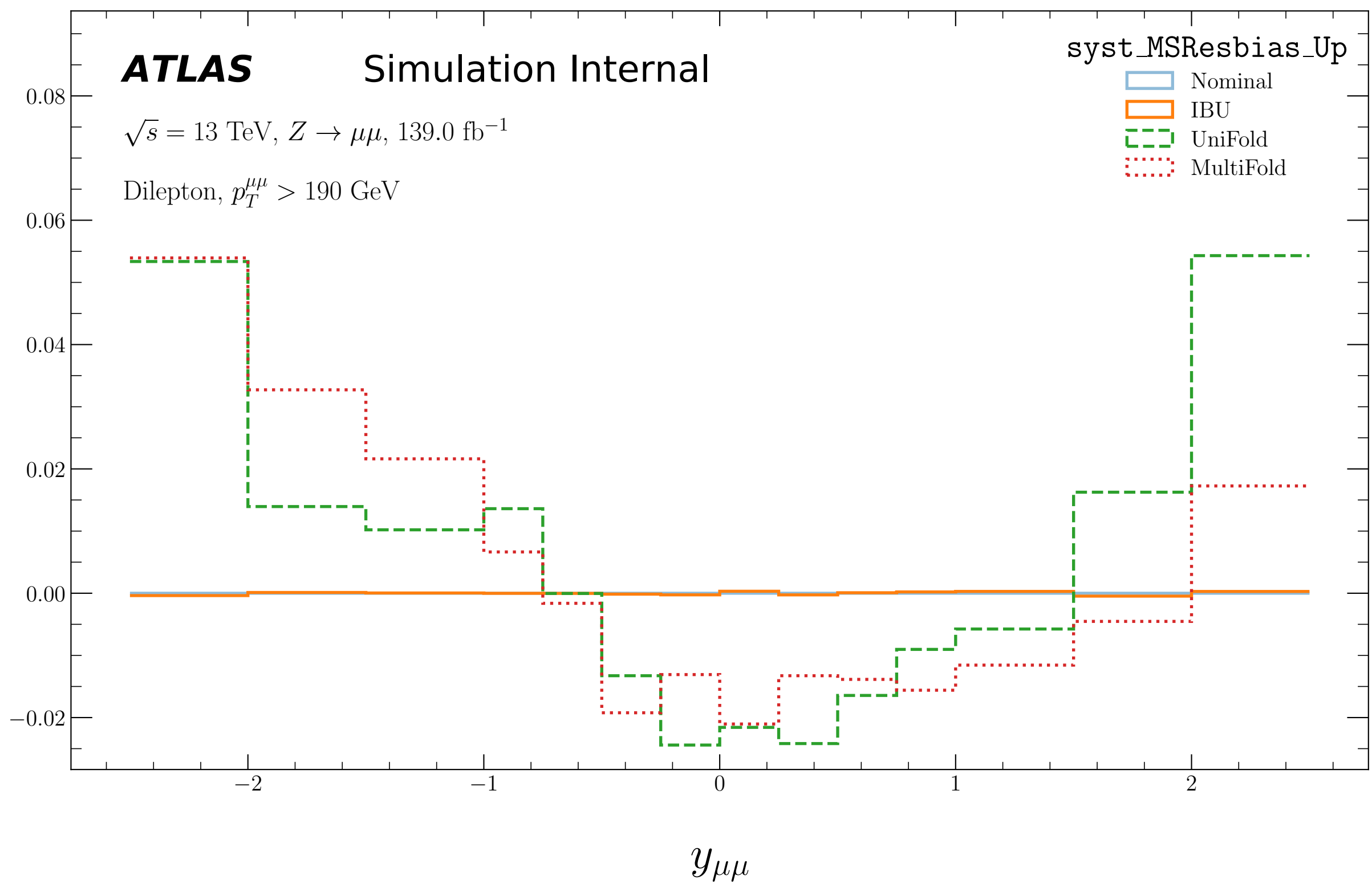
UniFold

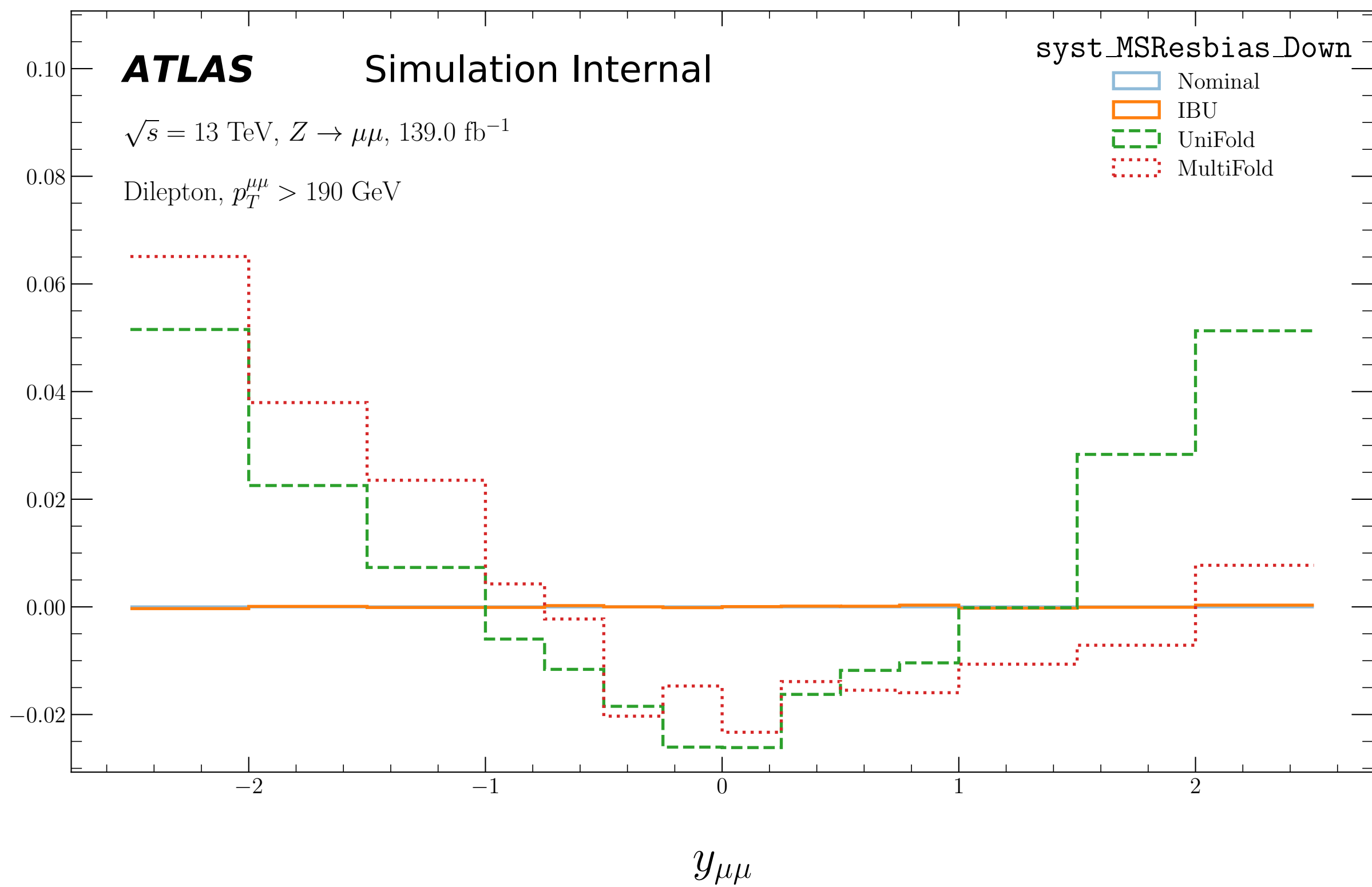
MultiFold

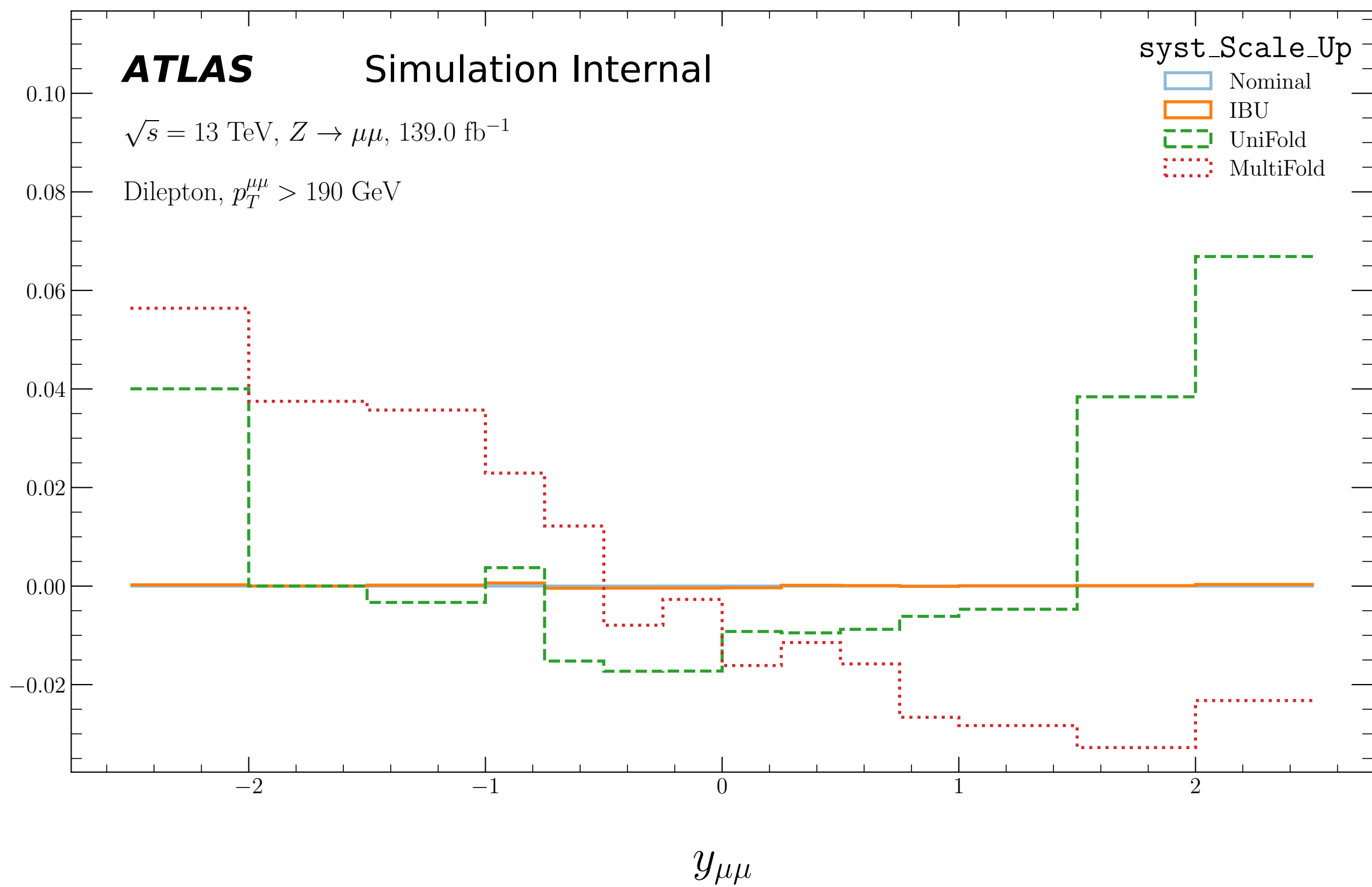












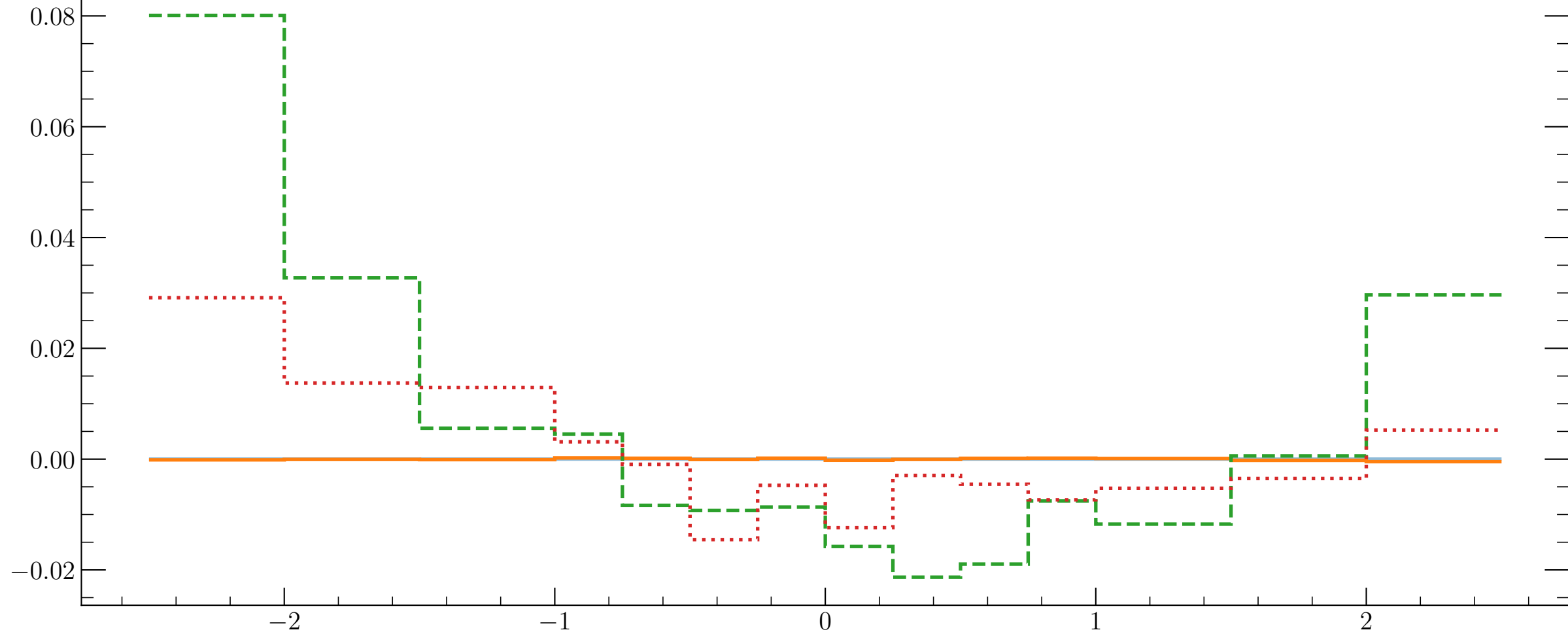
ATLAS

Simulation Internal

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

syst_Scale_Down

- Nominal
- IBU
- UniFold
- MultiFold

 $y_{\mu\mu}$

ATLAS

Simulation Internal

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

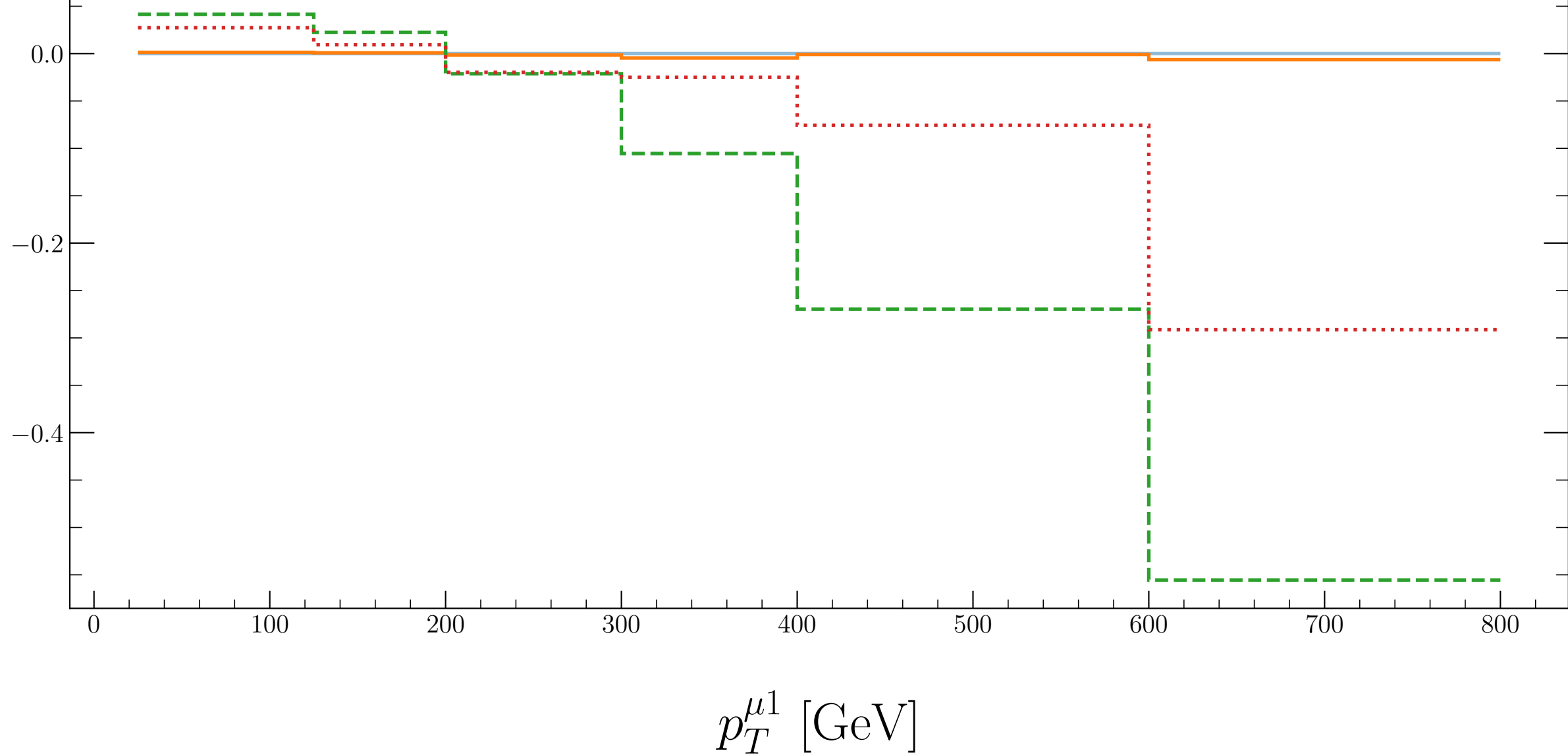
syst_ID_Up

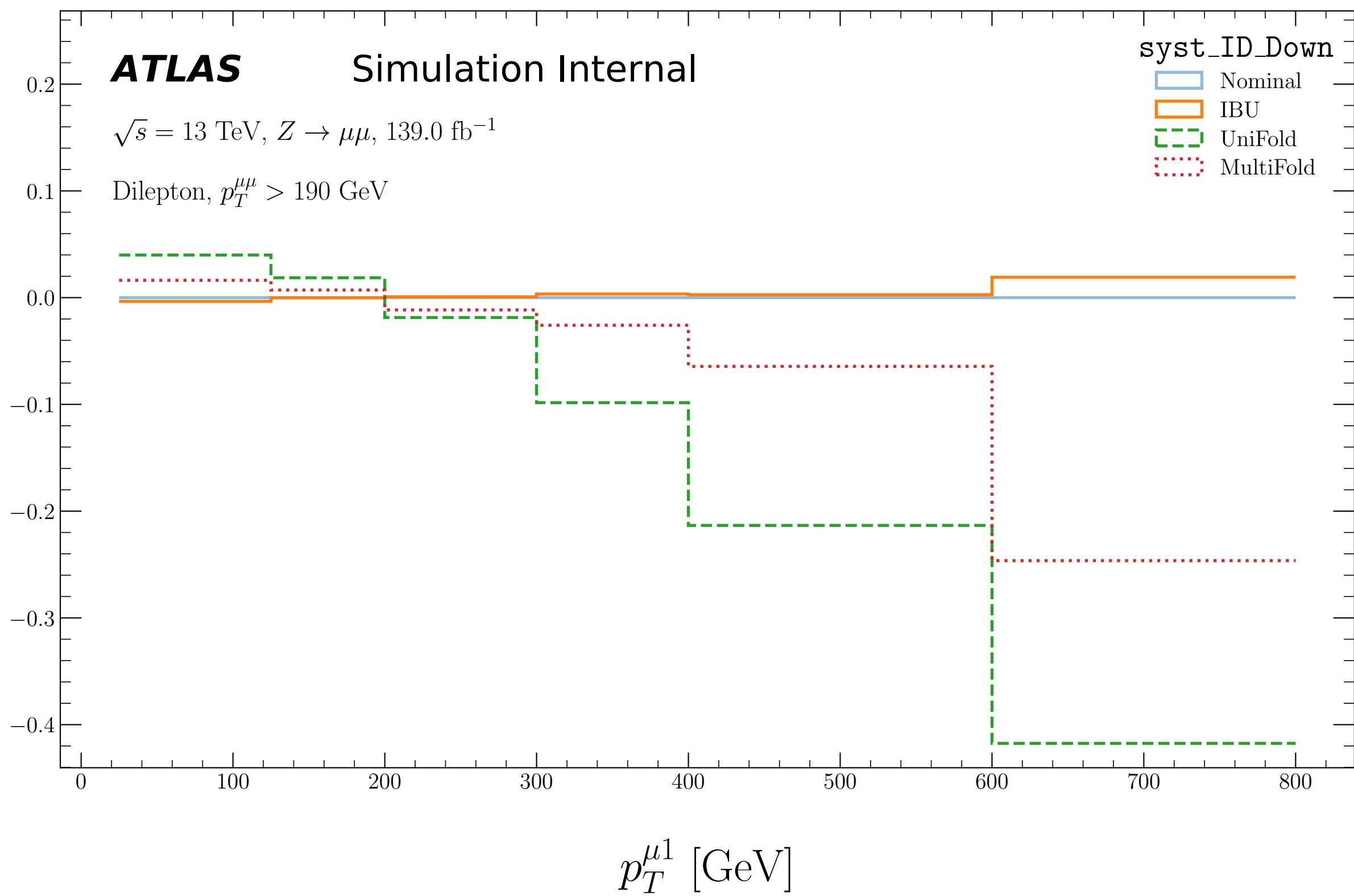
Nominal

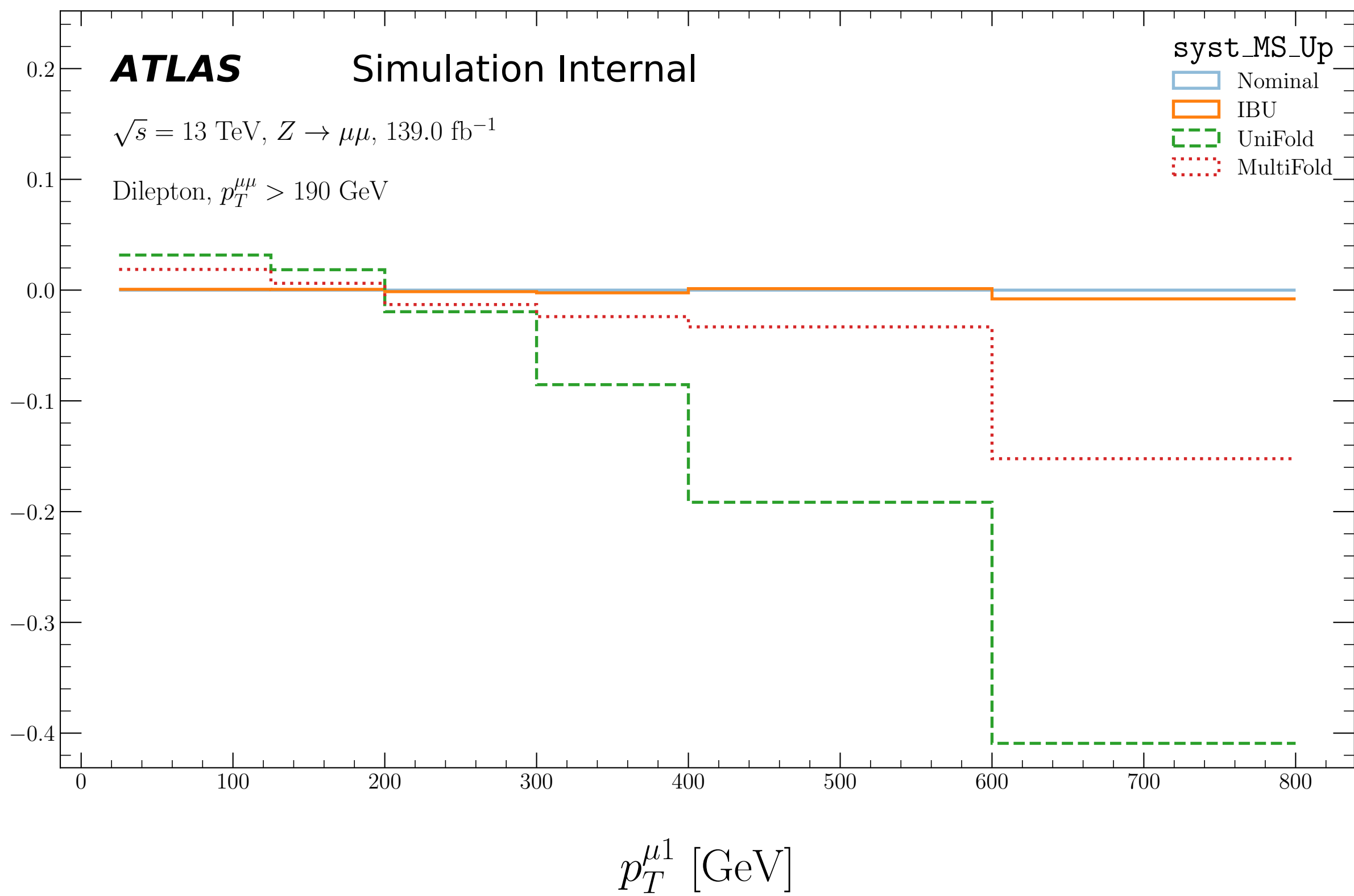
IBU

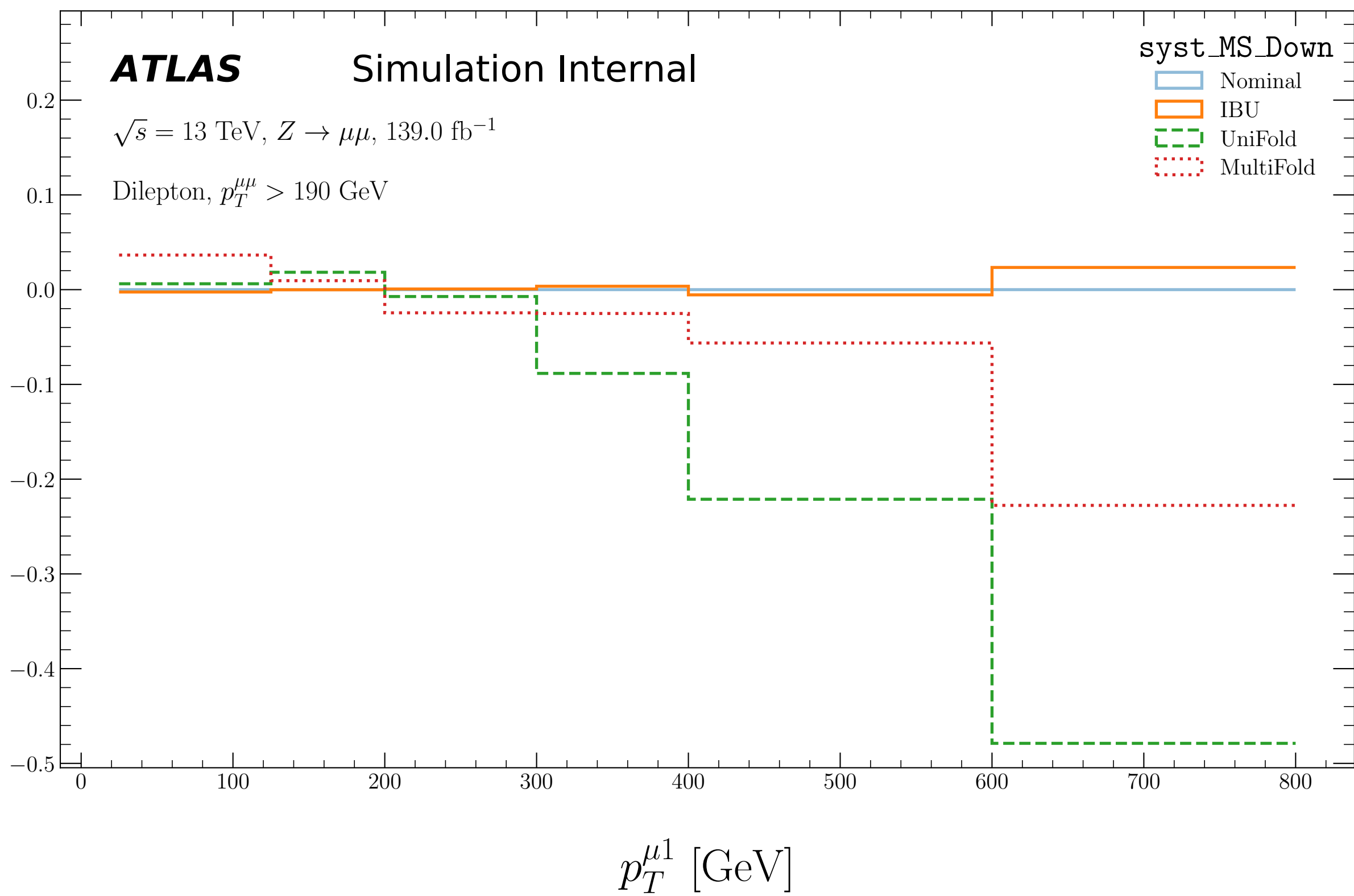
UniFold

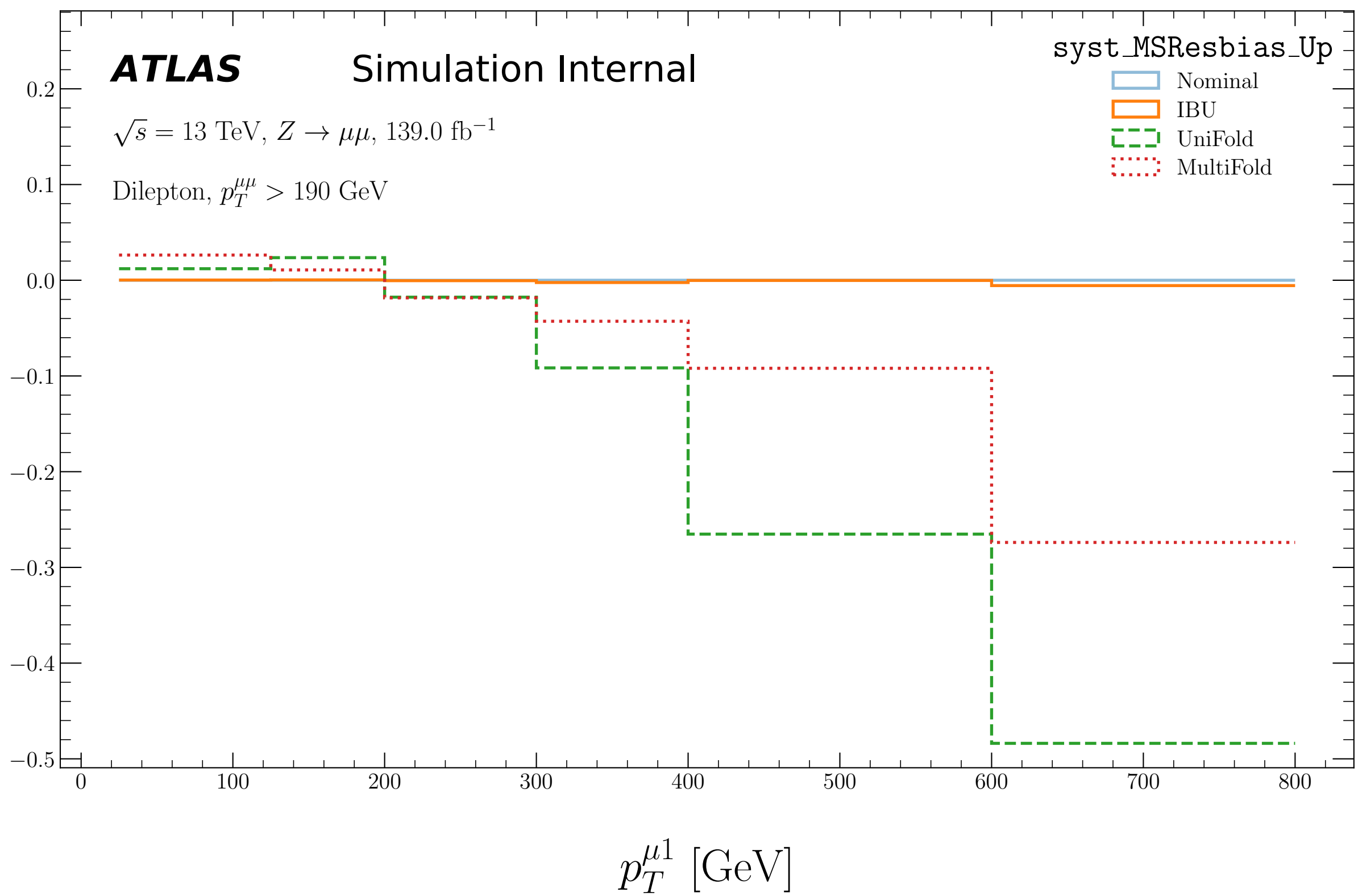
MultiFold

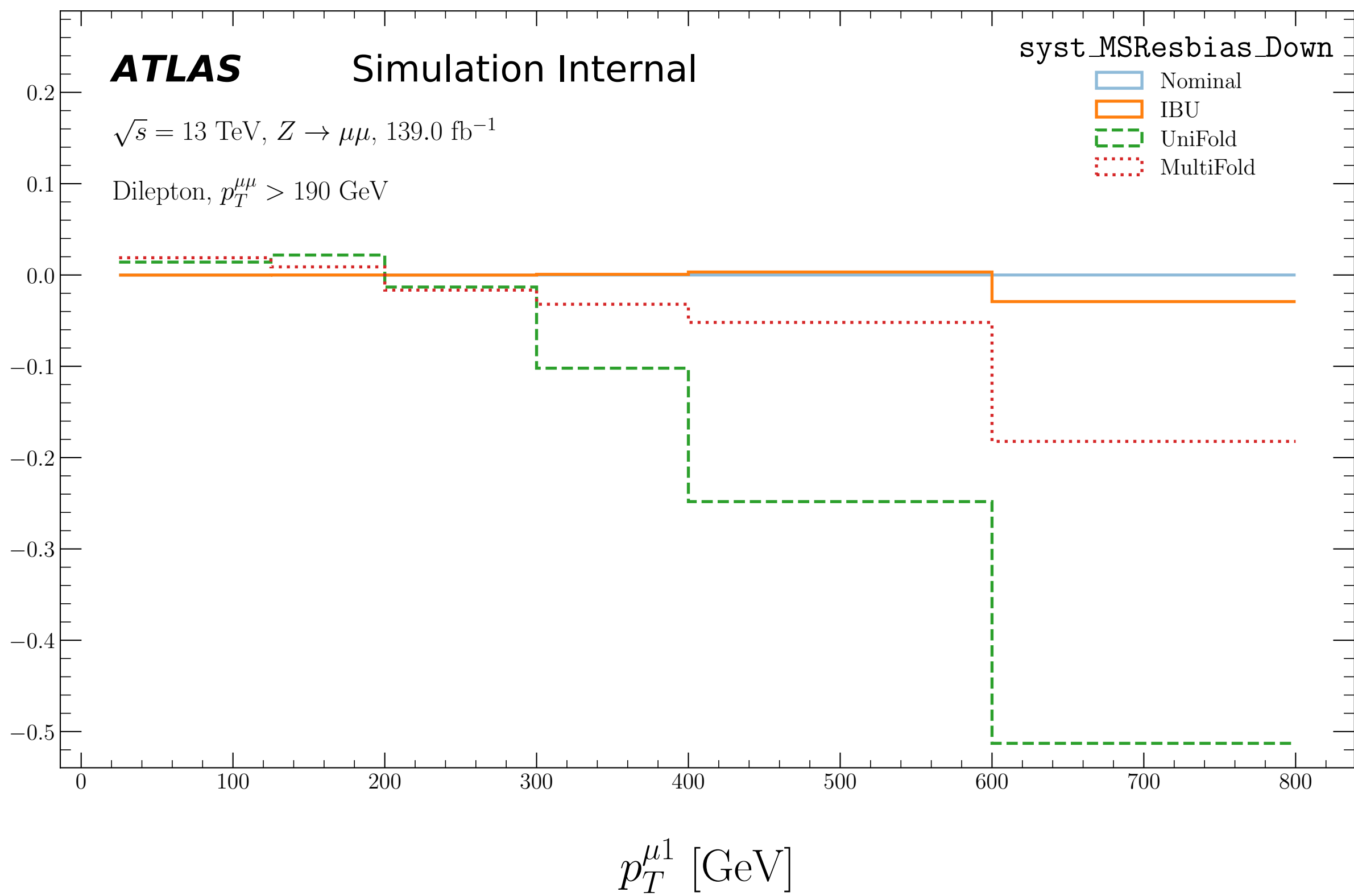












Relative Systematic Effect (MultiFold)

ATLAS

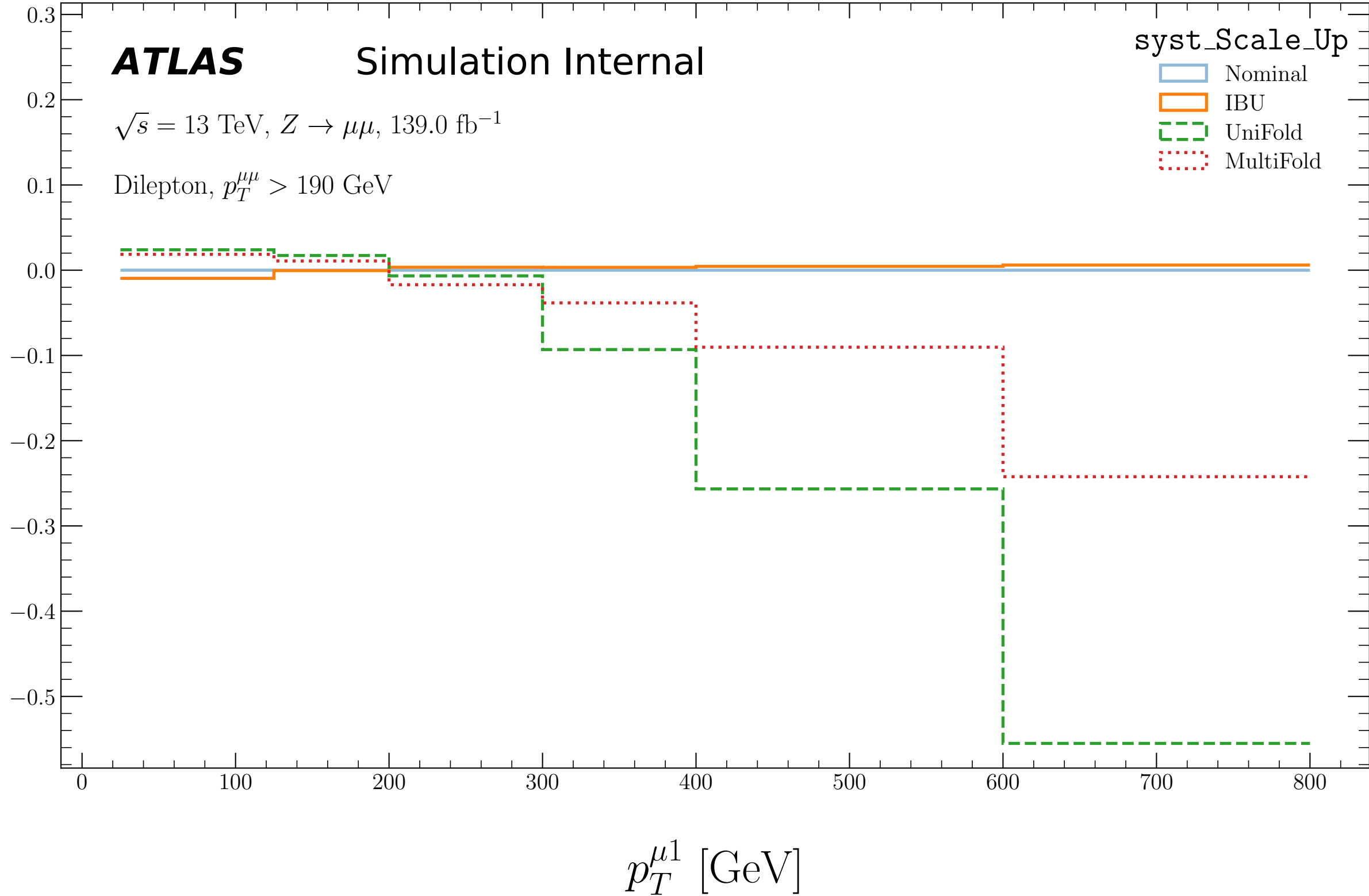
Simulation Internal

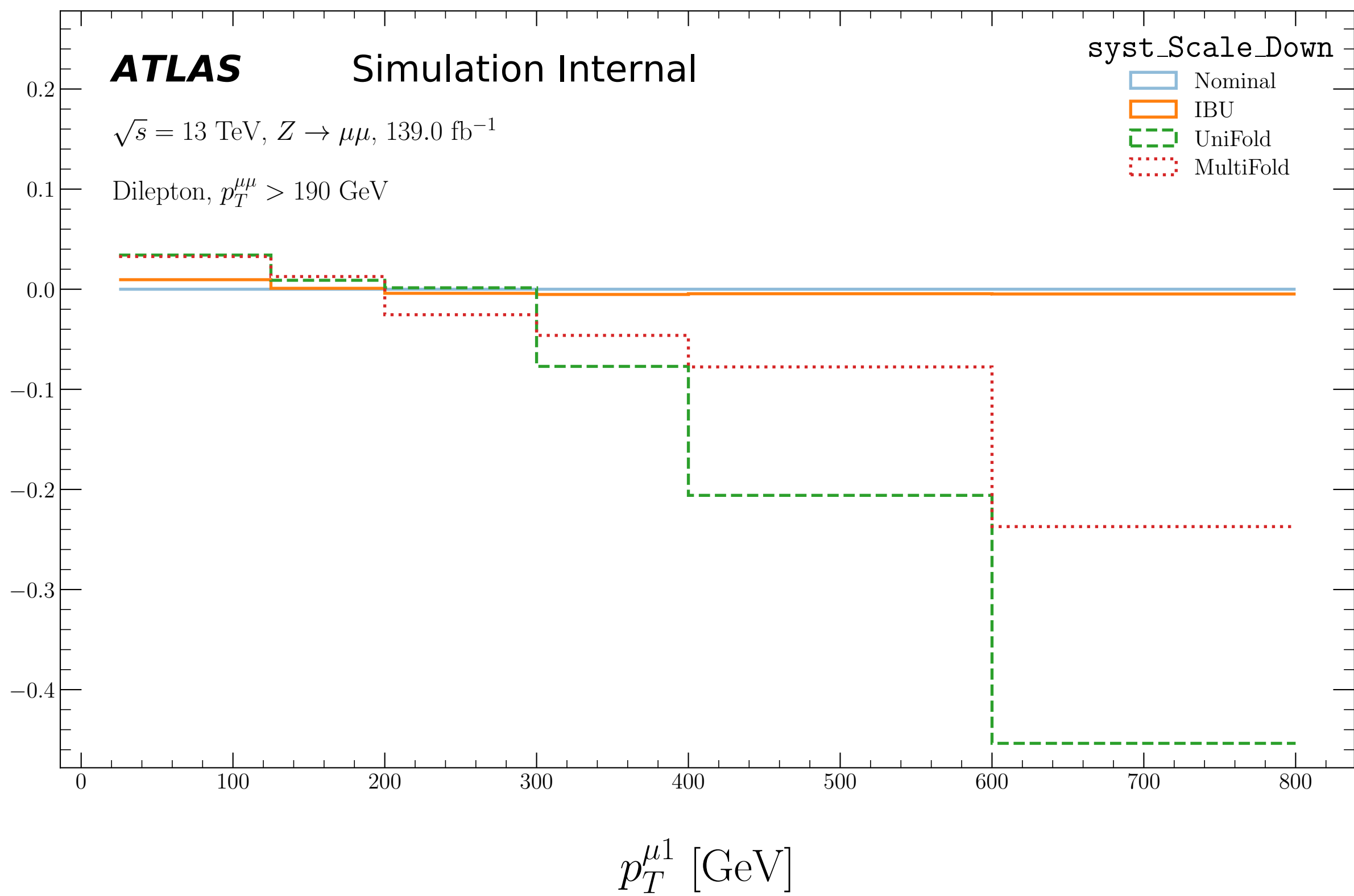
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Up

- Nominal
- IBU
- UniFold
- MultiFold





ATLAS

Simulation Internal

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

syst_ID_Up

Nominal

IBU

UniFold

MultiFold

0.20

0.15

0.10

0.05

0.00

50

100

150

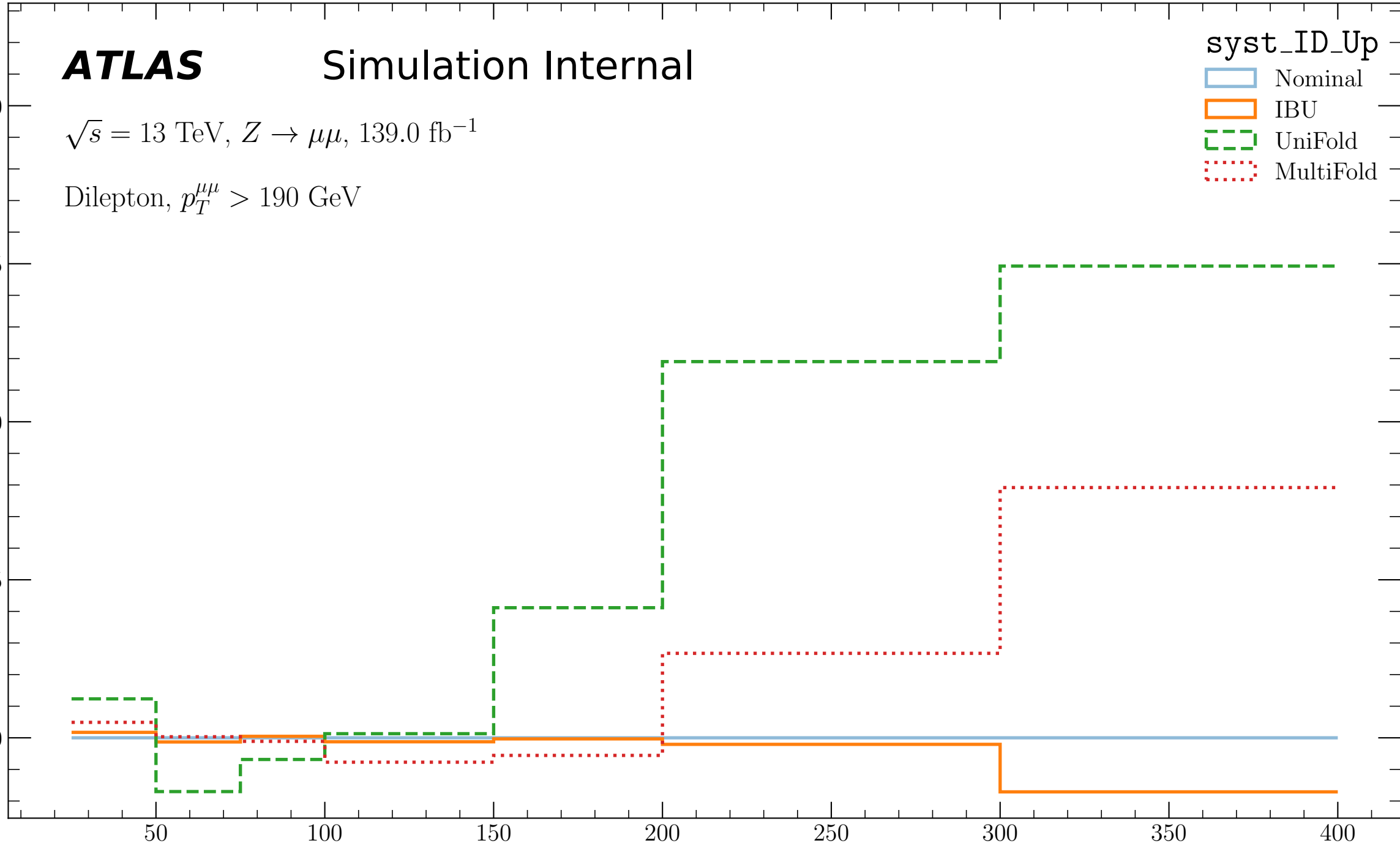
200

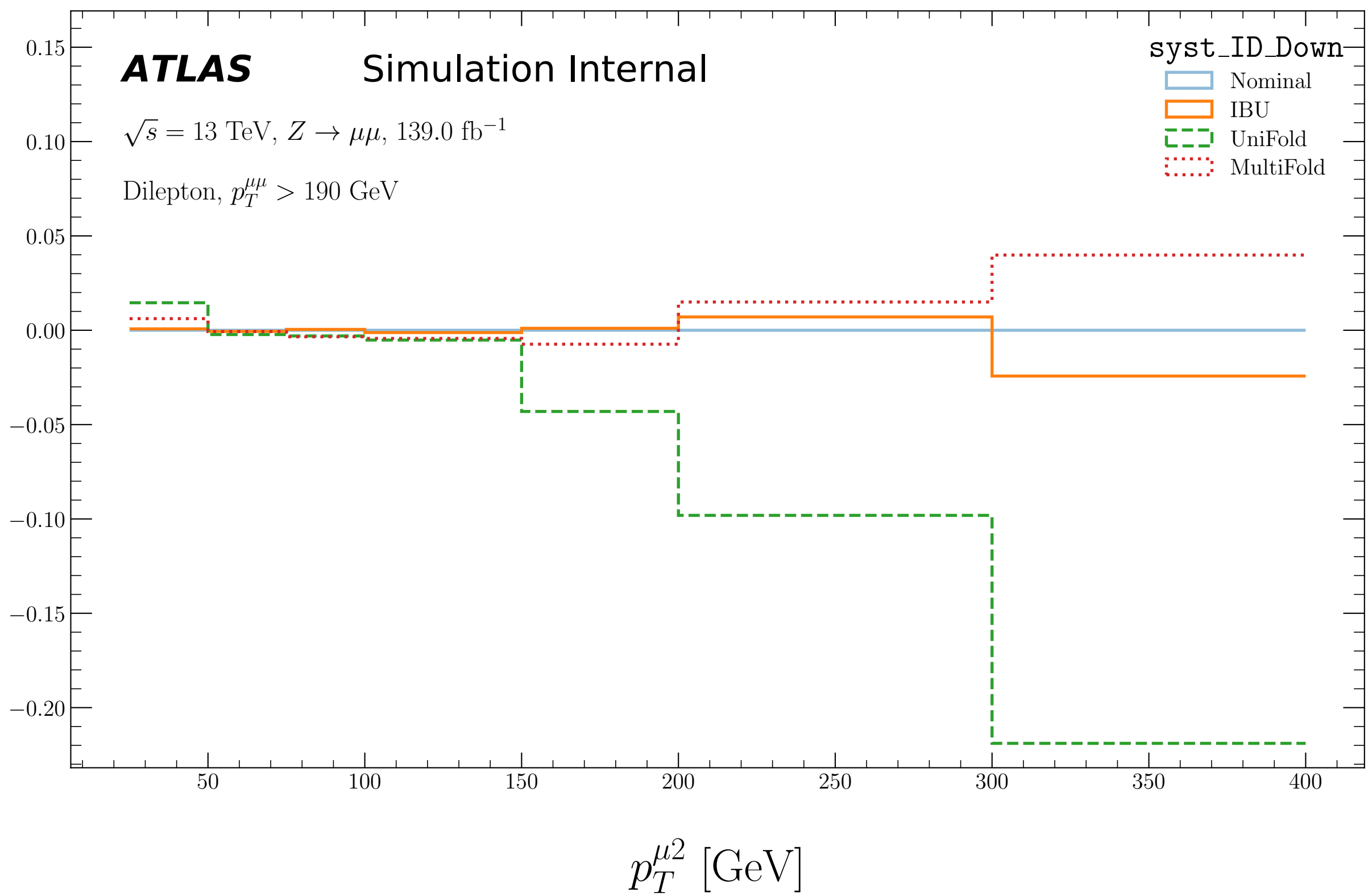
250

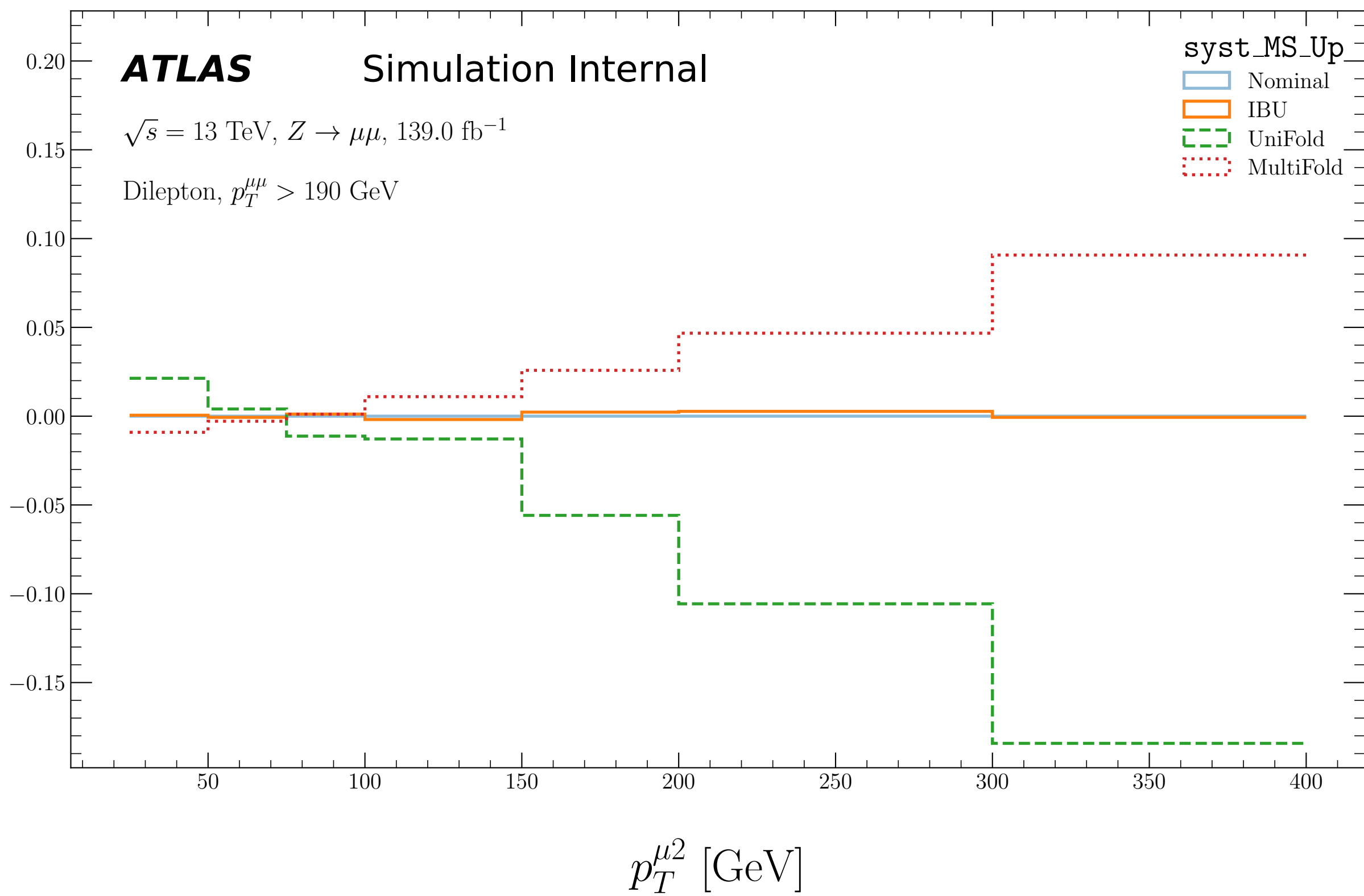
300

350

400

 $p_T^{\mu 2} \text{ [GeV]}$ 





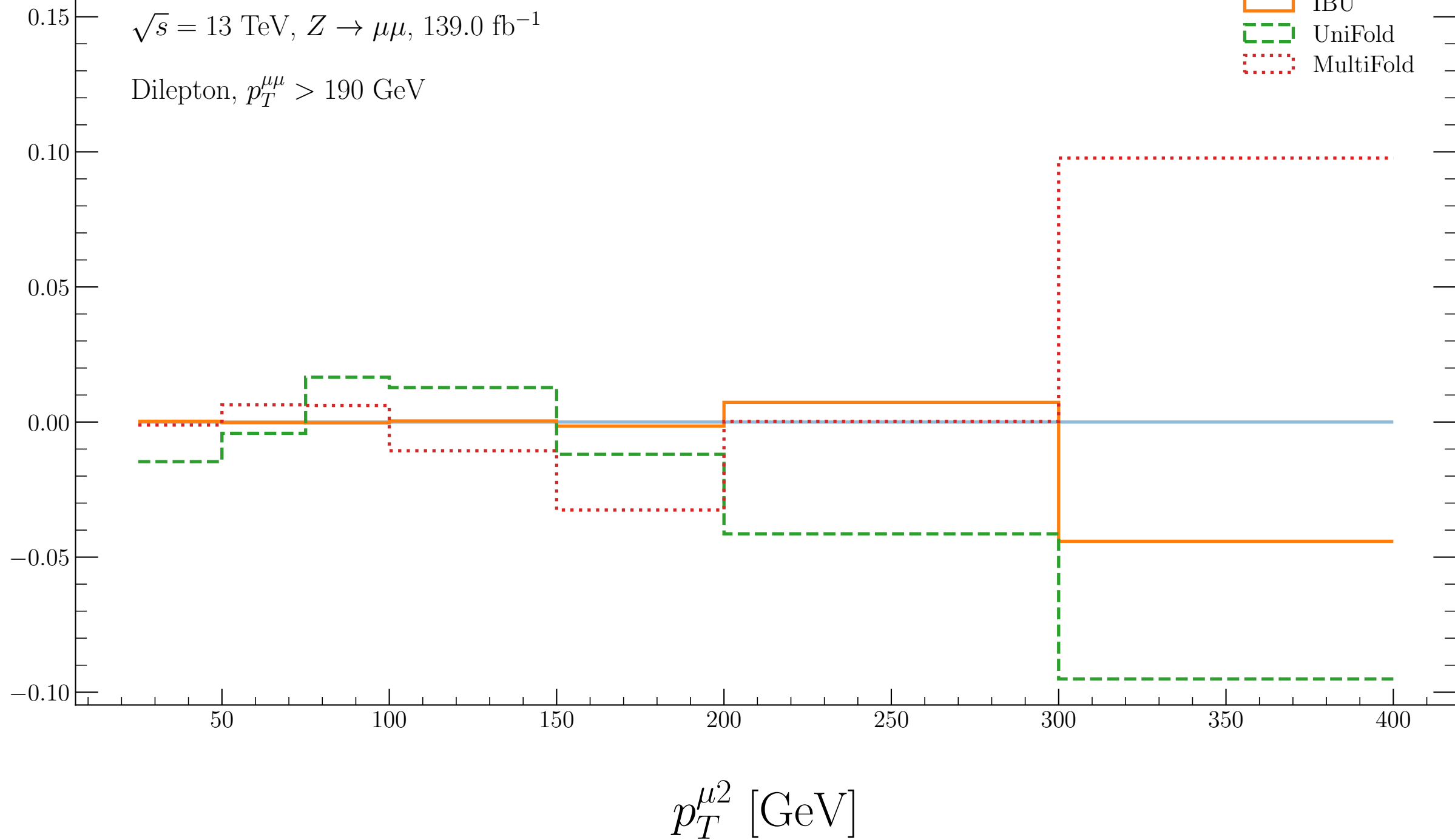
ATLAS

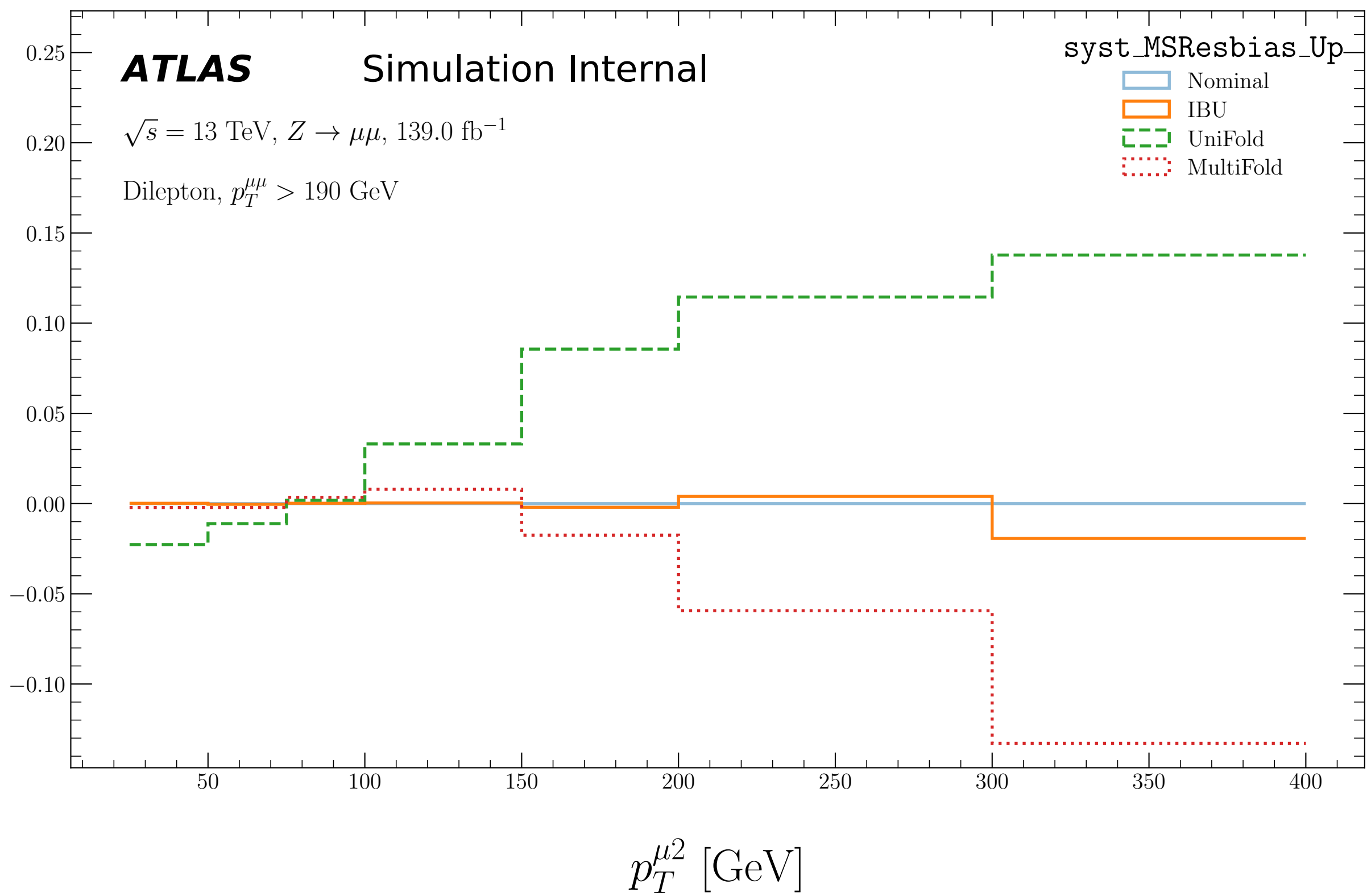
Simulation Internal

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

syst_MS_Down

- Nominal
- IBU
- UniFold
- MultiFold





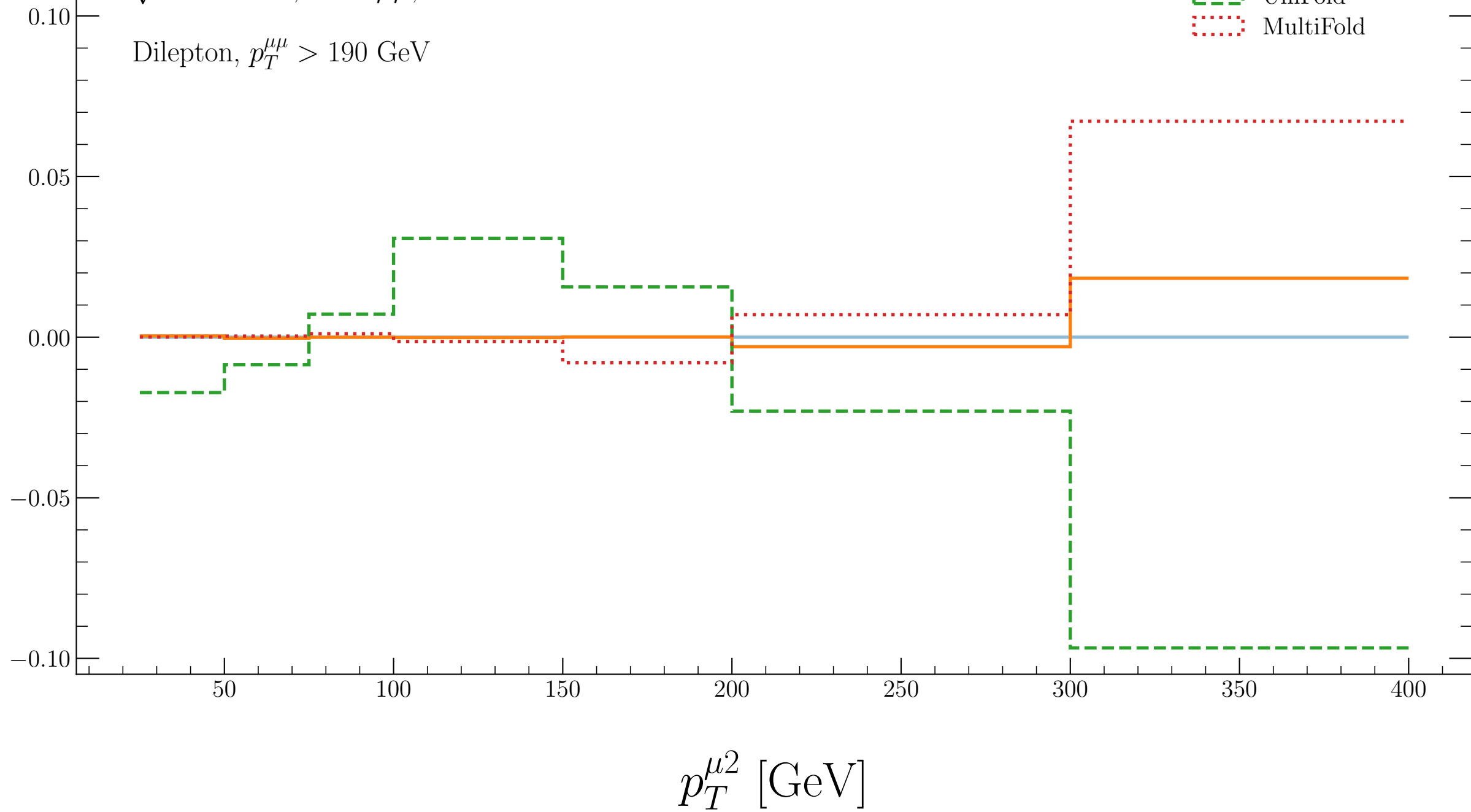
ATLAS

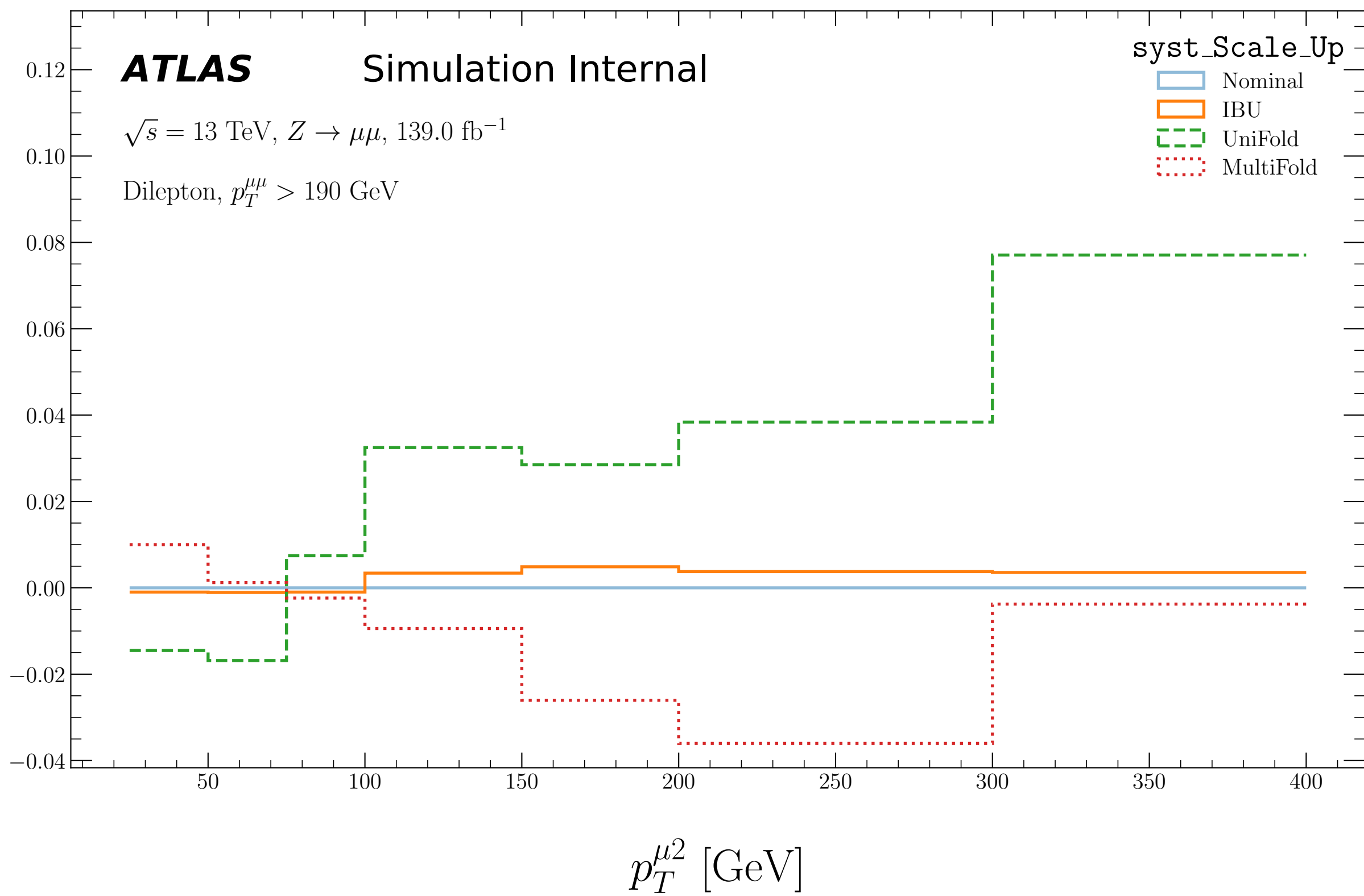
Simulation Internal

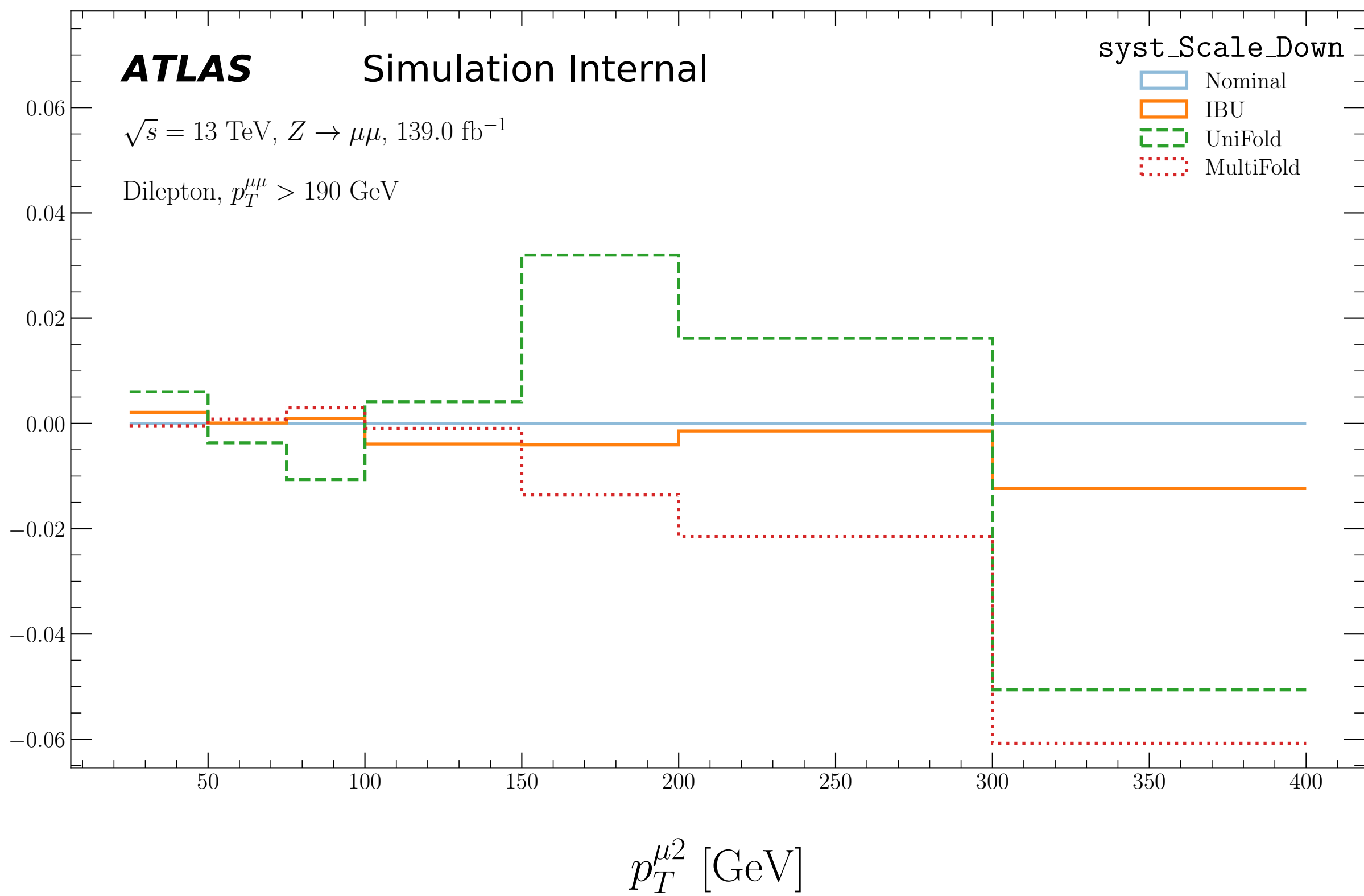
 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Down

- Nominal
- IBU
- UniFold
- MultiFold







ATLAS

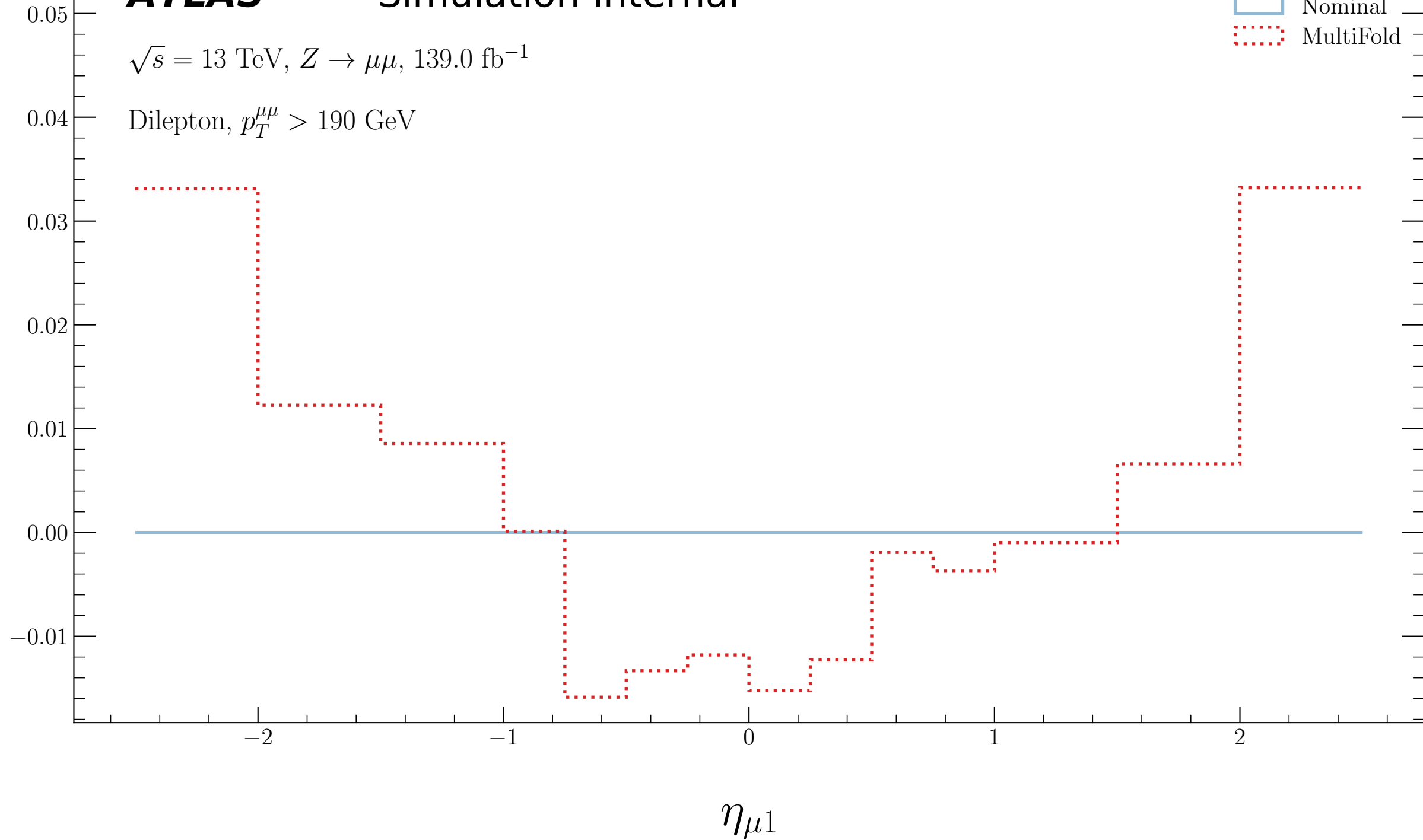
Simulation Internal

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

syst_ID_Up

Nominal

MultiFold



Relative Systematic Effect (MultiFold)

ATLAS

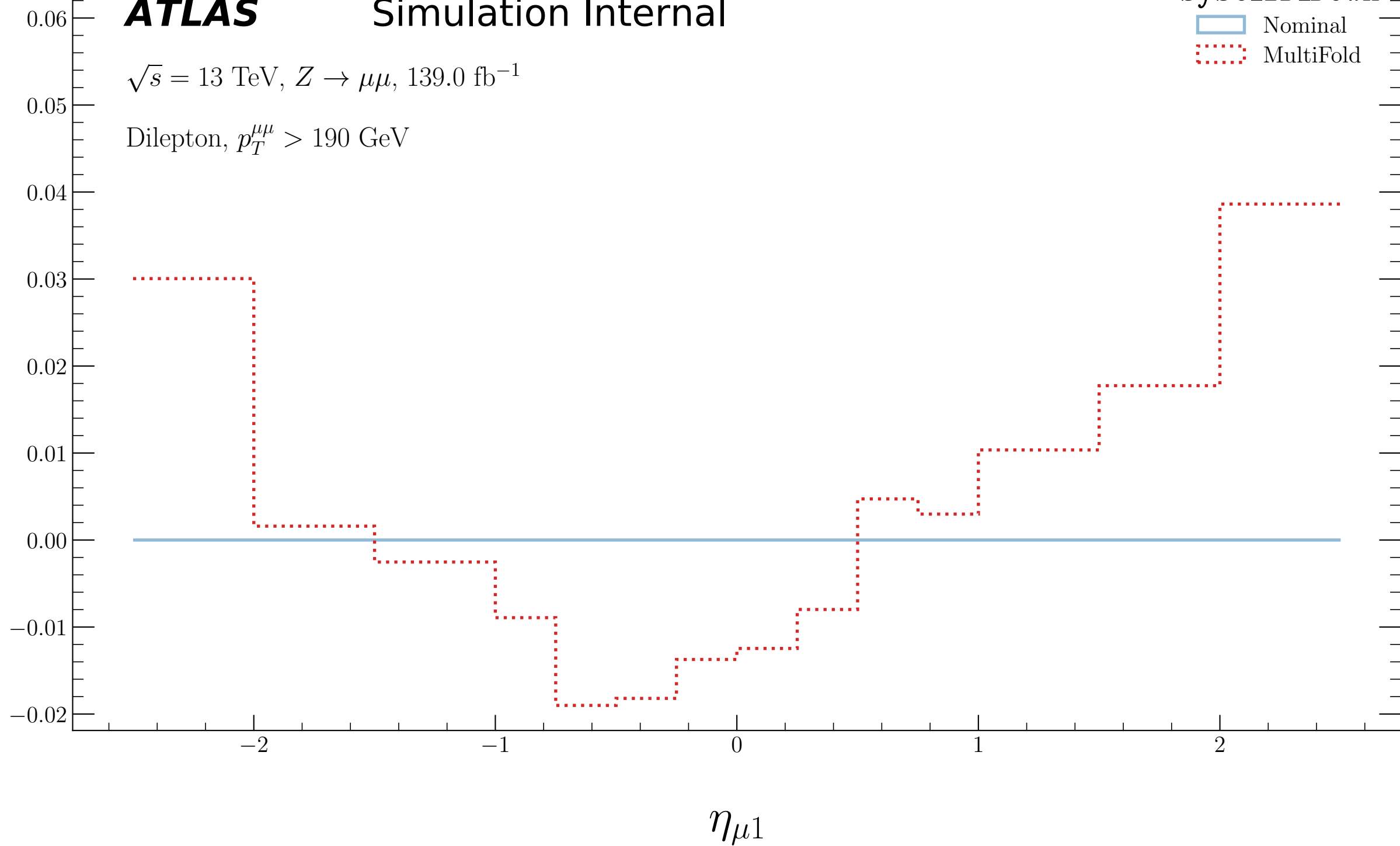
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Down

Nominal
MultiFold



ATLAS

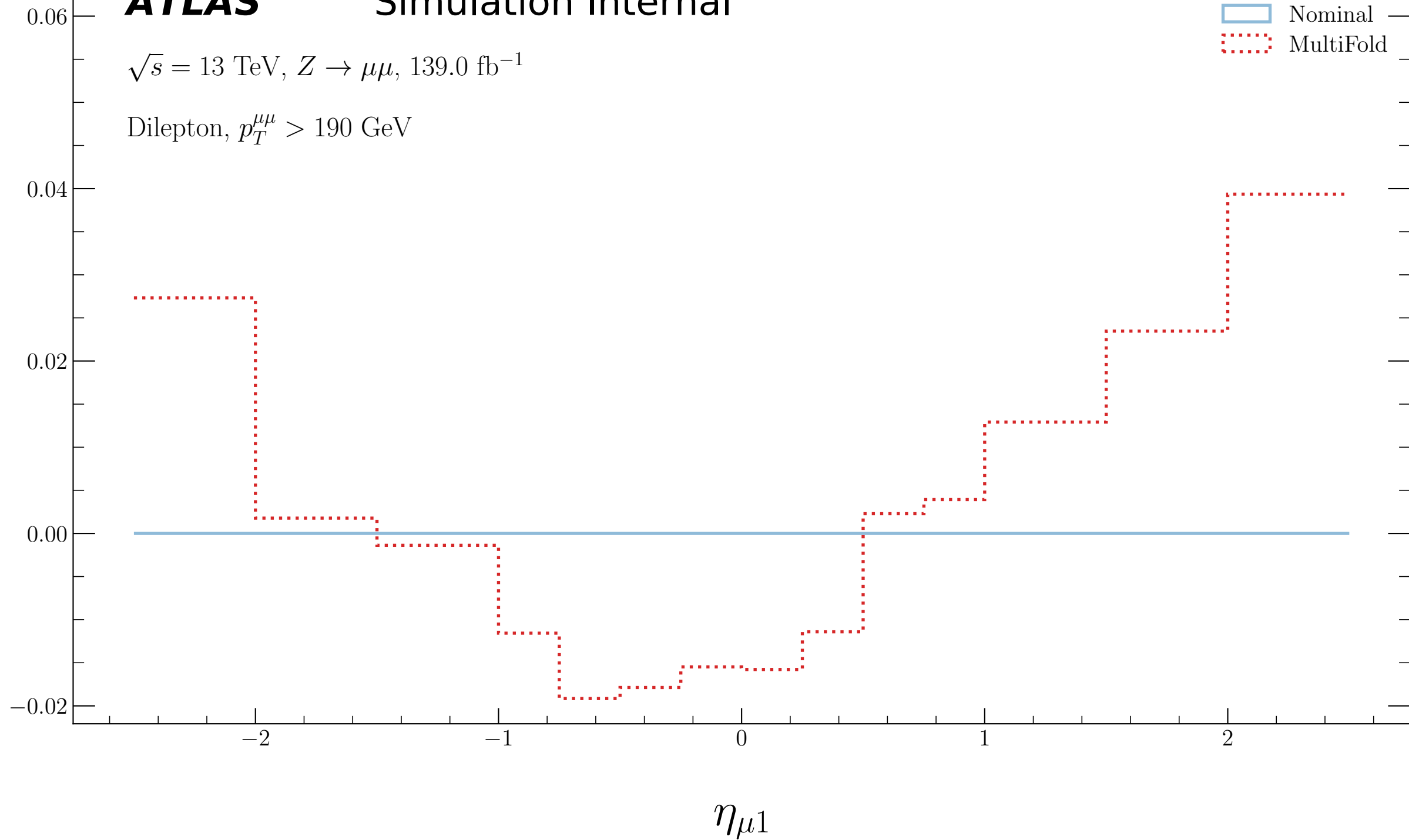
Simulation Internal

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

syst_MS_Up

Nominal

MultiFold



ATLAS

Simulation Internal

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

syst_MS_Down

Nominal
MultiFold0.05
0.04
0.03
0.02
0.01
0.00
-0.01

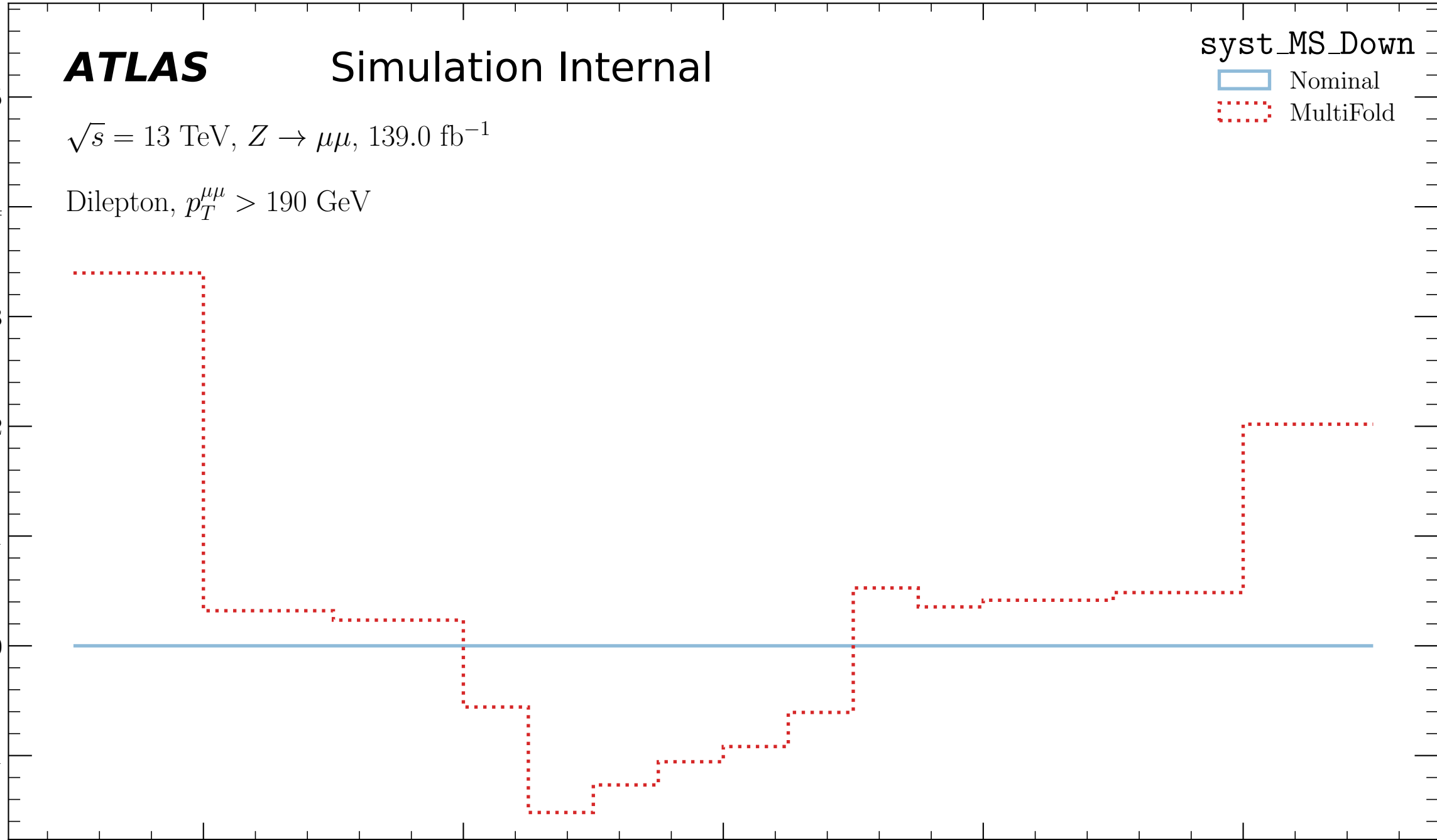
-2

-1

0

1

2

 $\eta_{\mu 1}$ 

ATLAS

Simulation Internal

syst_MSResbias_Up

 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$ Nominal
MultiFold0.08
0.06
0.04
0.02
0.00
-0.02

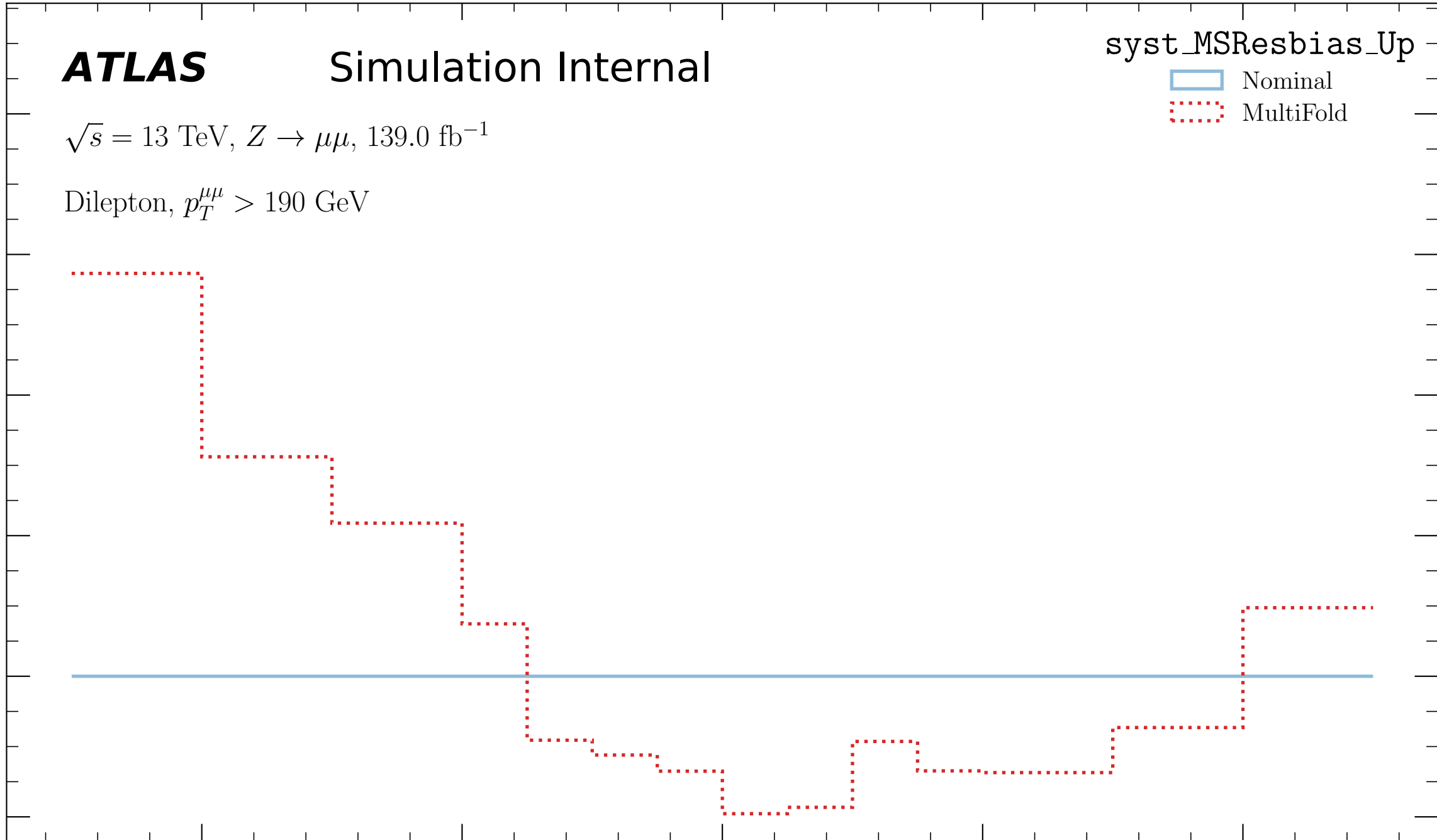
-2

-1

0

1

2

 $\eta_{\mu 1}$ 

Relative Systematic Effect (MultiFold)

ATLAS

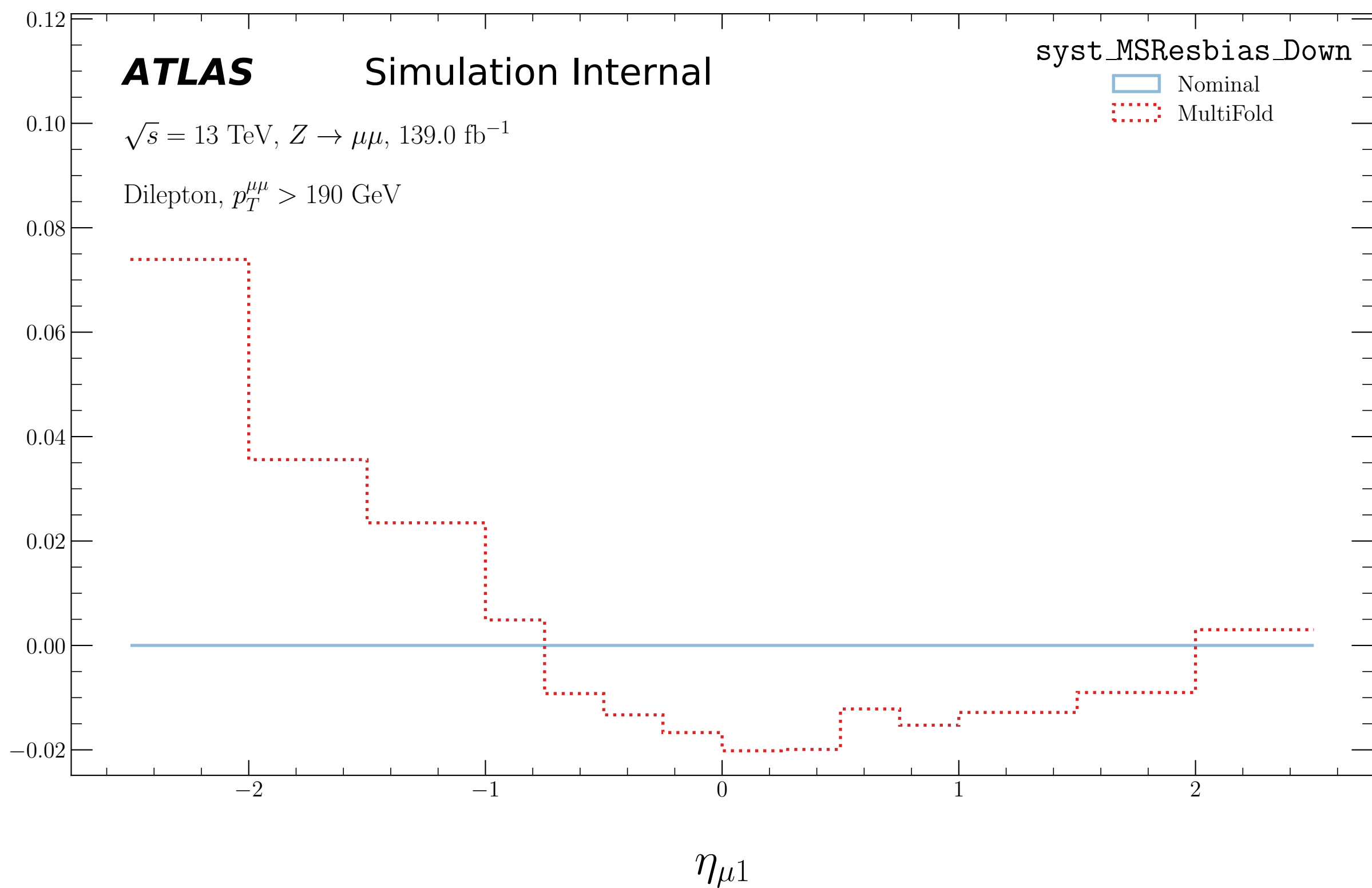
Simulation Internal

syst_MSResbias_Down

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

Nominal
MultiFold



Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Up

Nominal
MultiFold

0.10
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04

-2

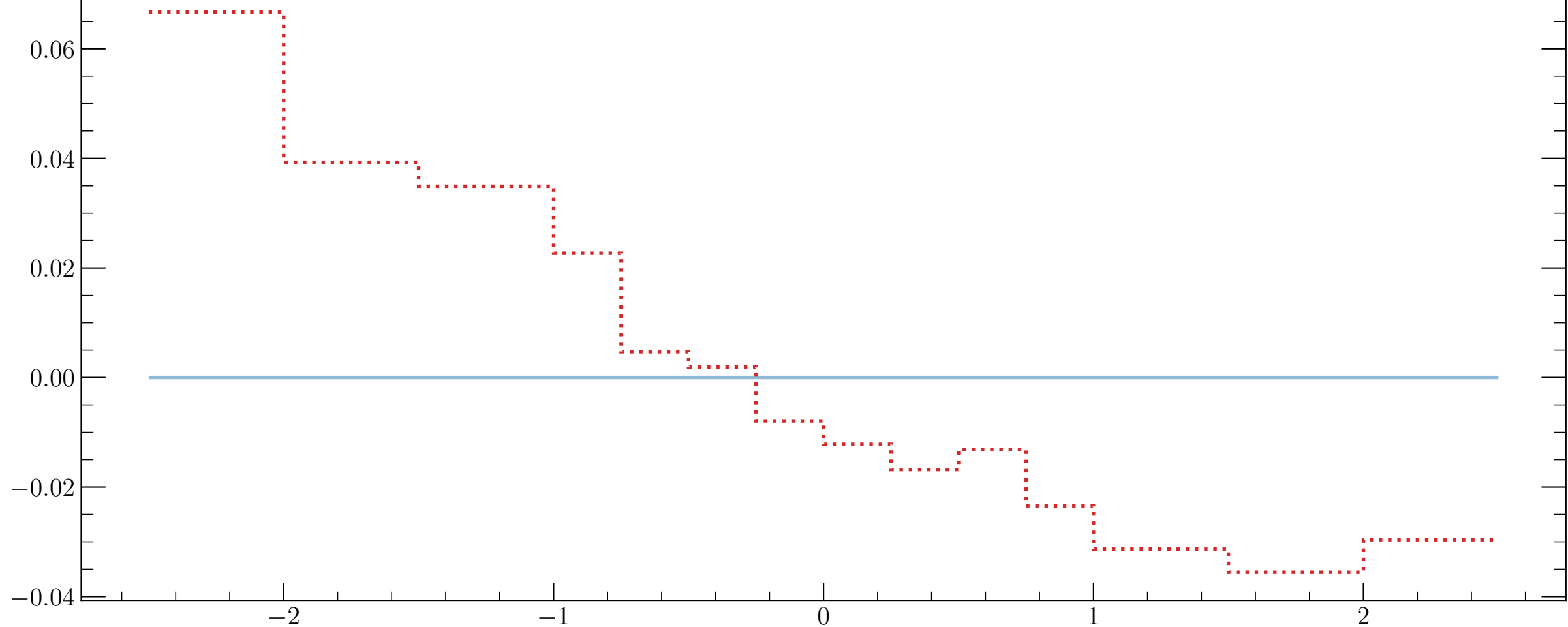
-1

0

1

2

$\eta_{\mu 1}$

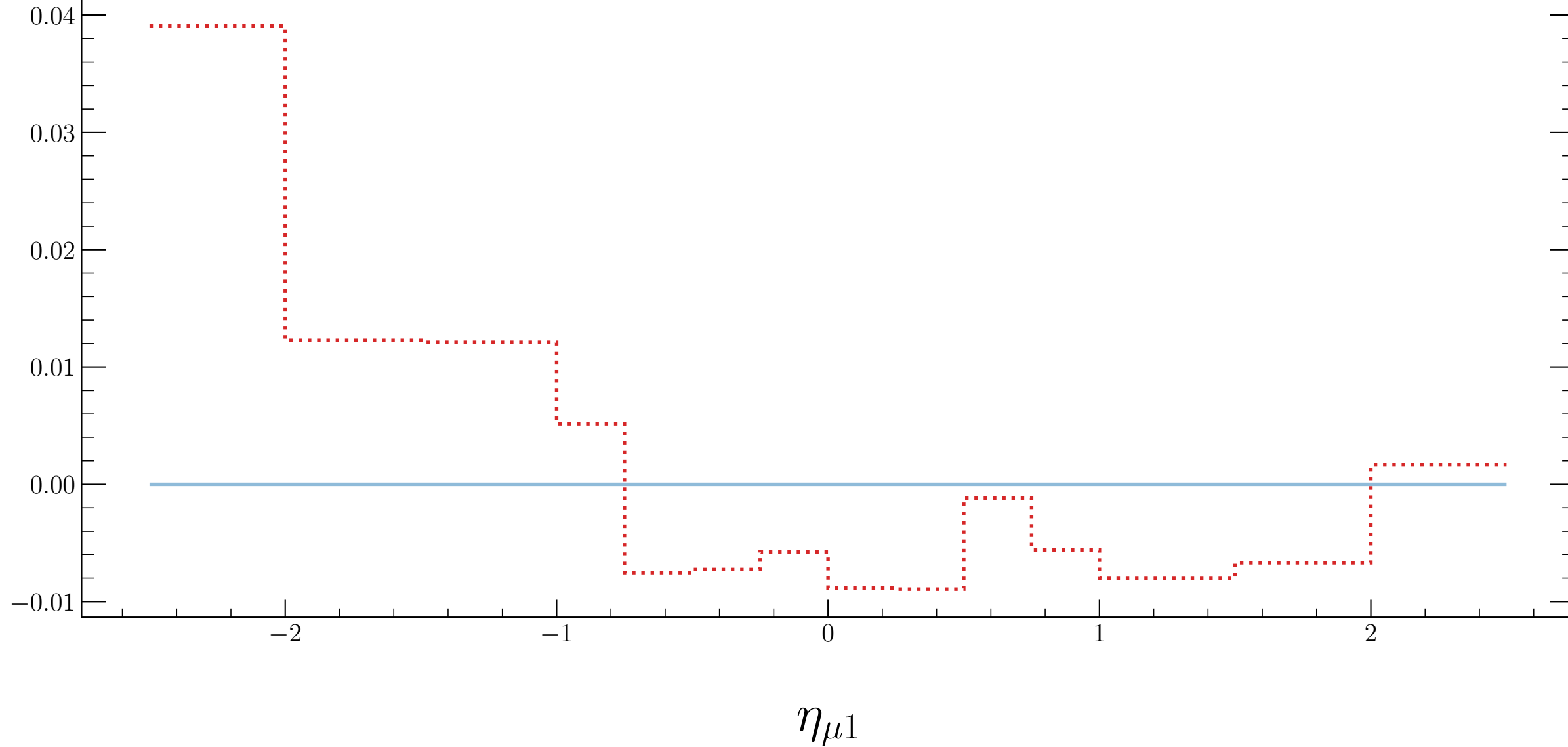


ATLAS

Simulation Internal

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

syst_Scale_Down

Nominal
MultiFold

ATLAS

Simulation Internal

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

syst_ID_Up

Nominal

MultiFold

0.04
0.03
0.02
0.01
0.00
-0.01

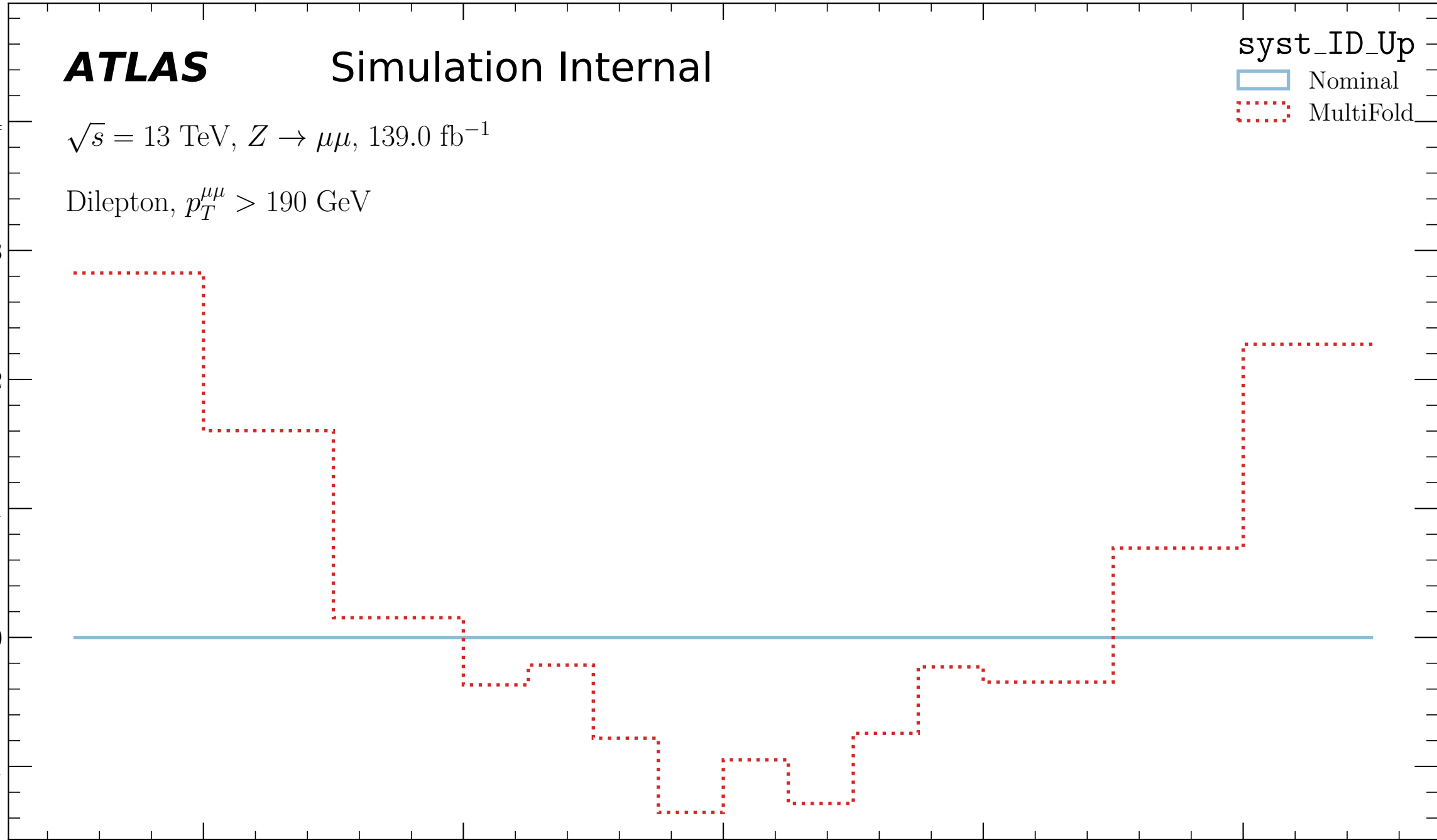
-2

-1

0

1

2

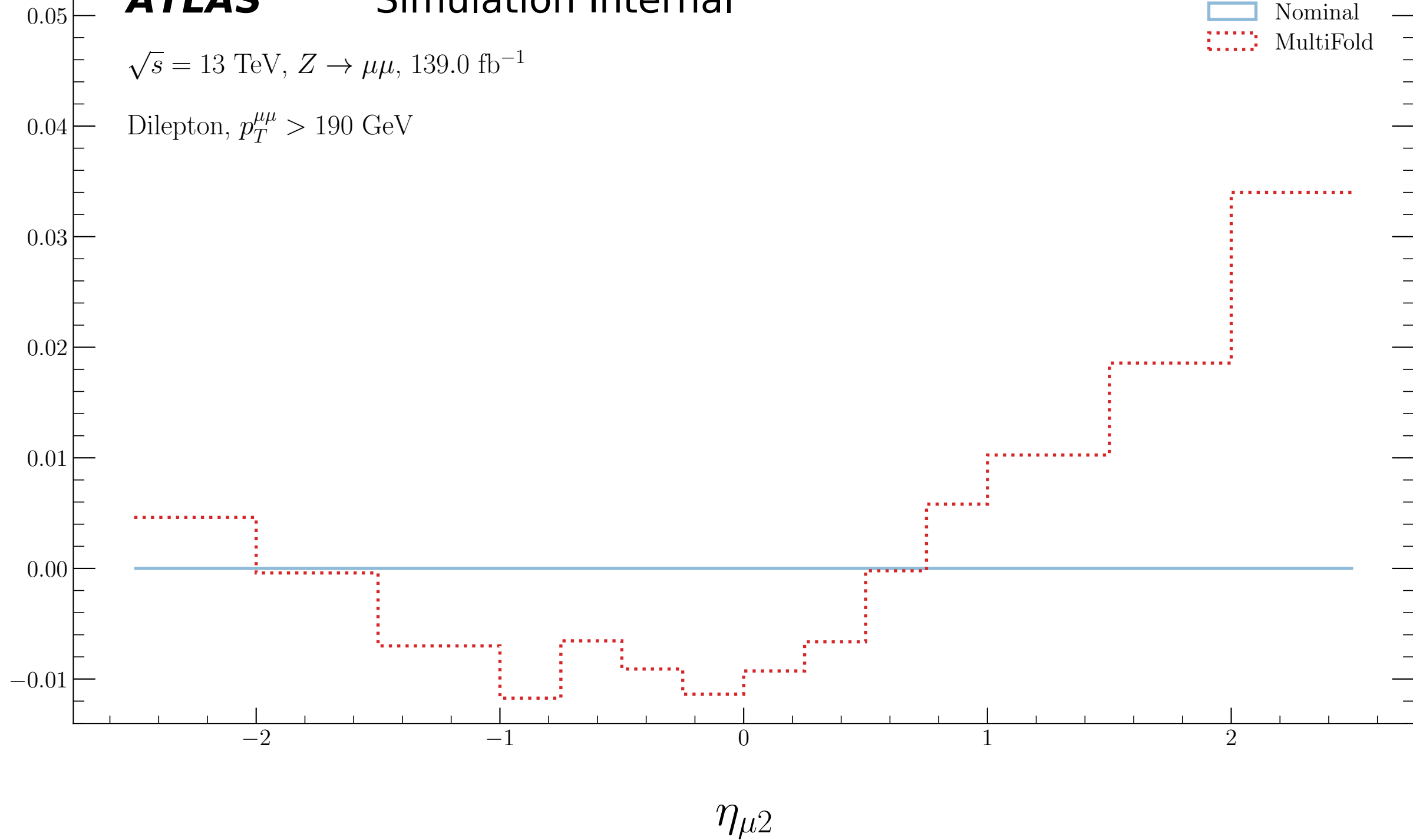
 $\eta_{\mu 2}$ 

ATLAS

Simulation Internal

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

syst_ID_Down

Nominal
MultiFold

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

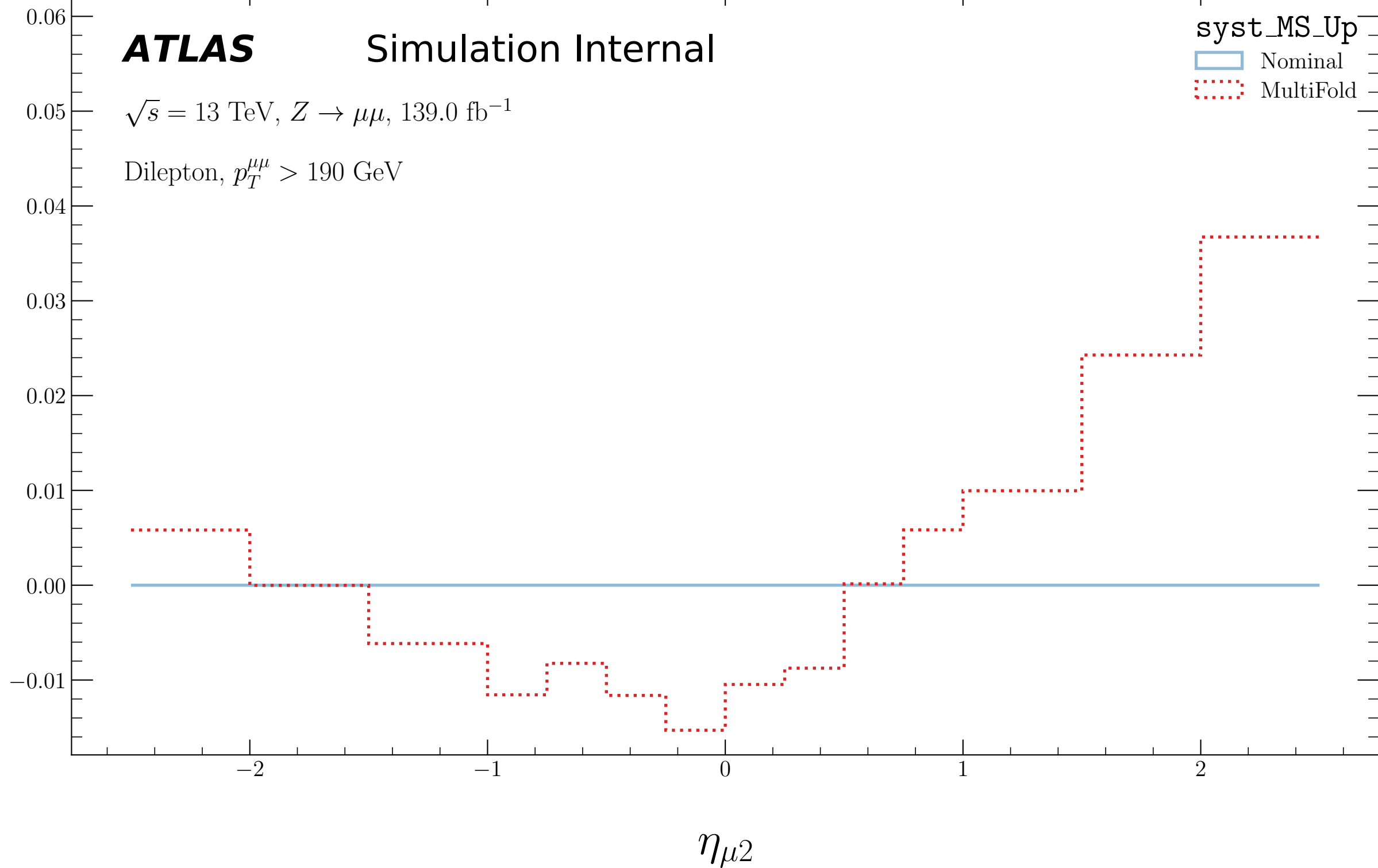
$\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Up

Nominal

MultiFold

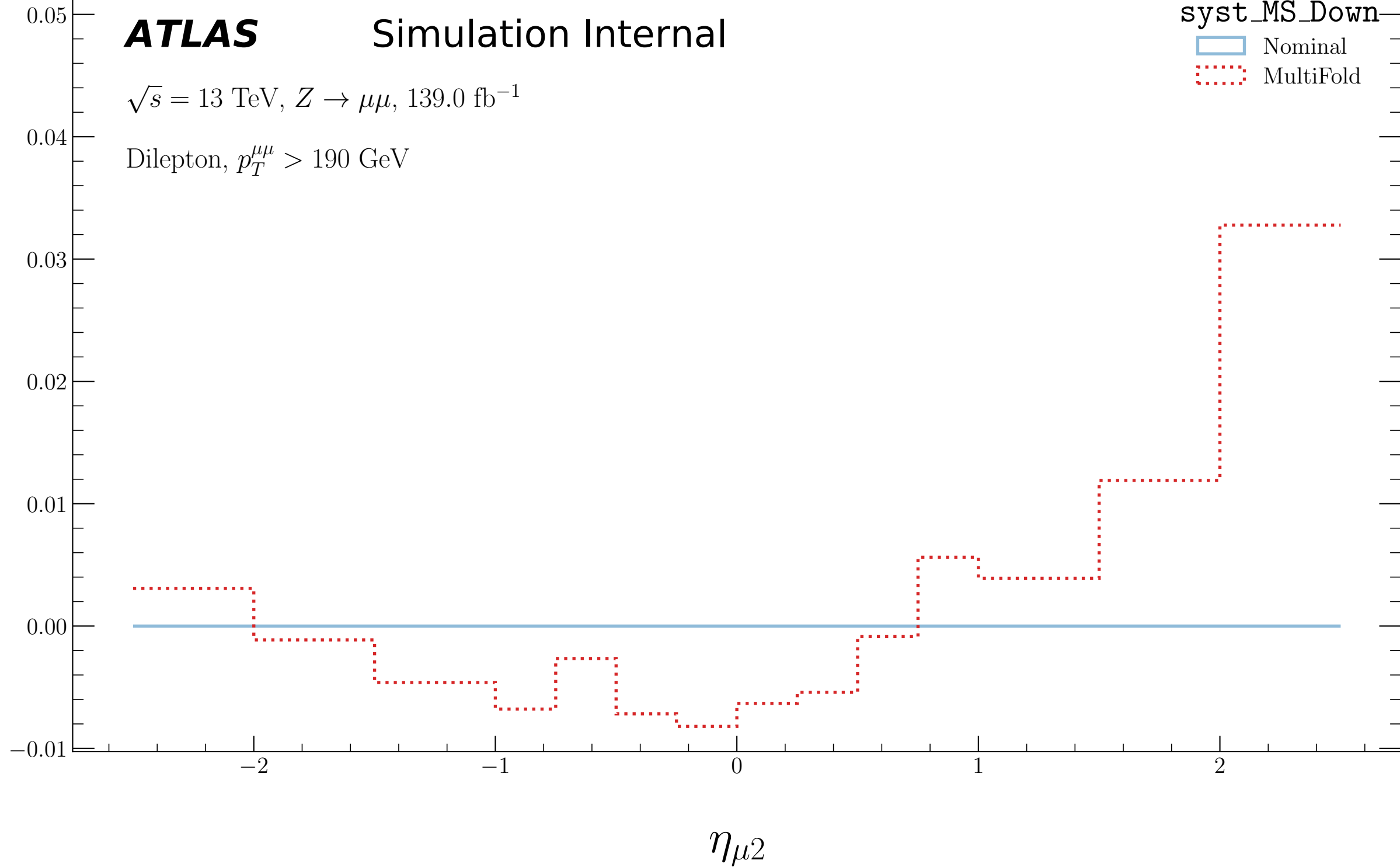


ATLAS

Simulation Internal

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

syst_MS_Down

Nominal
MultiFold

Relative Systematic Effect (MultiFold)

ATLAS

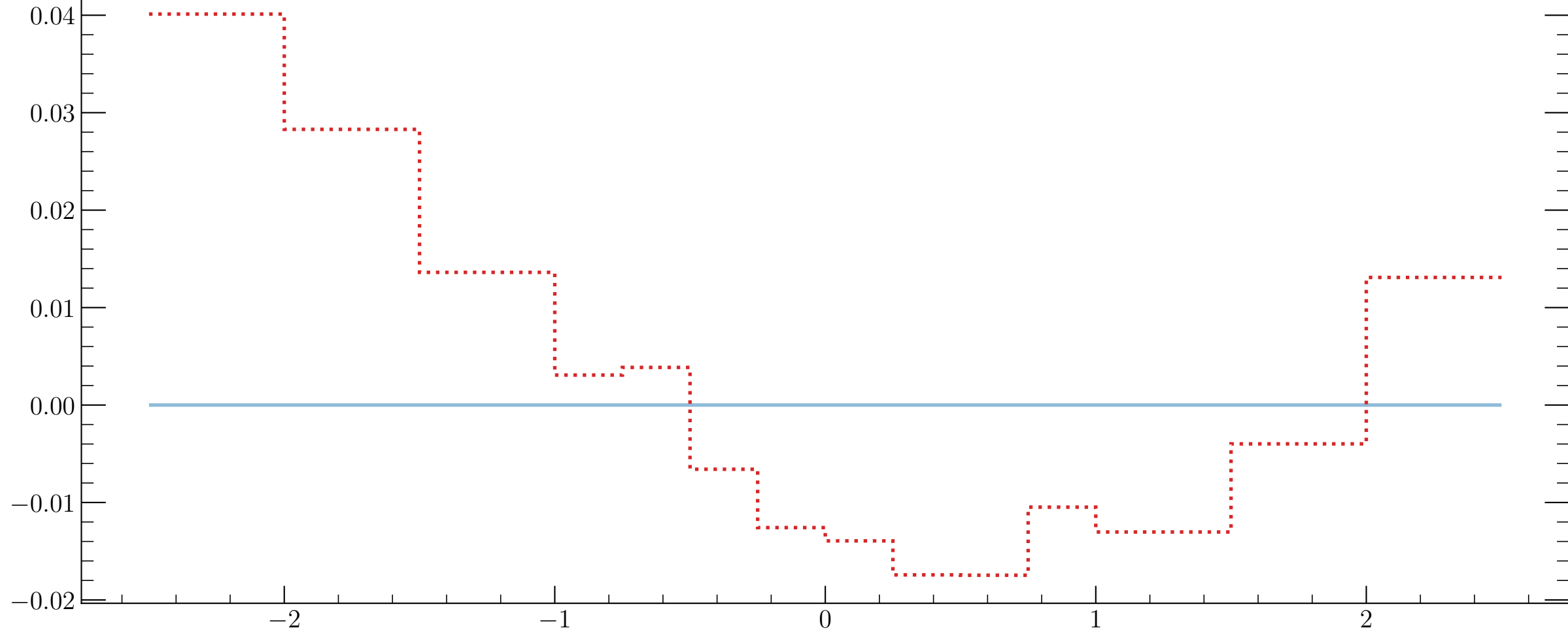
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MSResbias_Up

Nominal
MultiFold

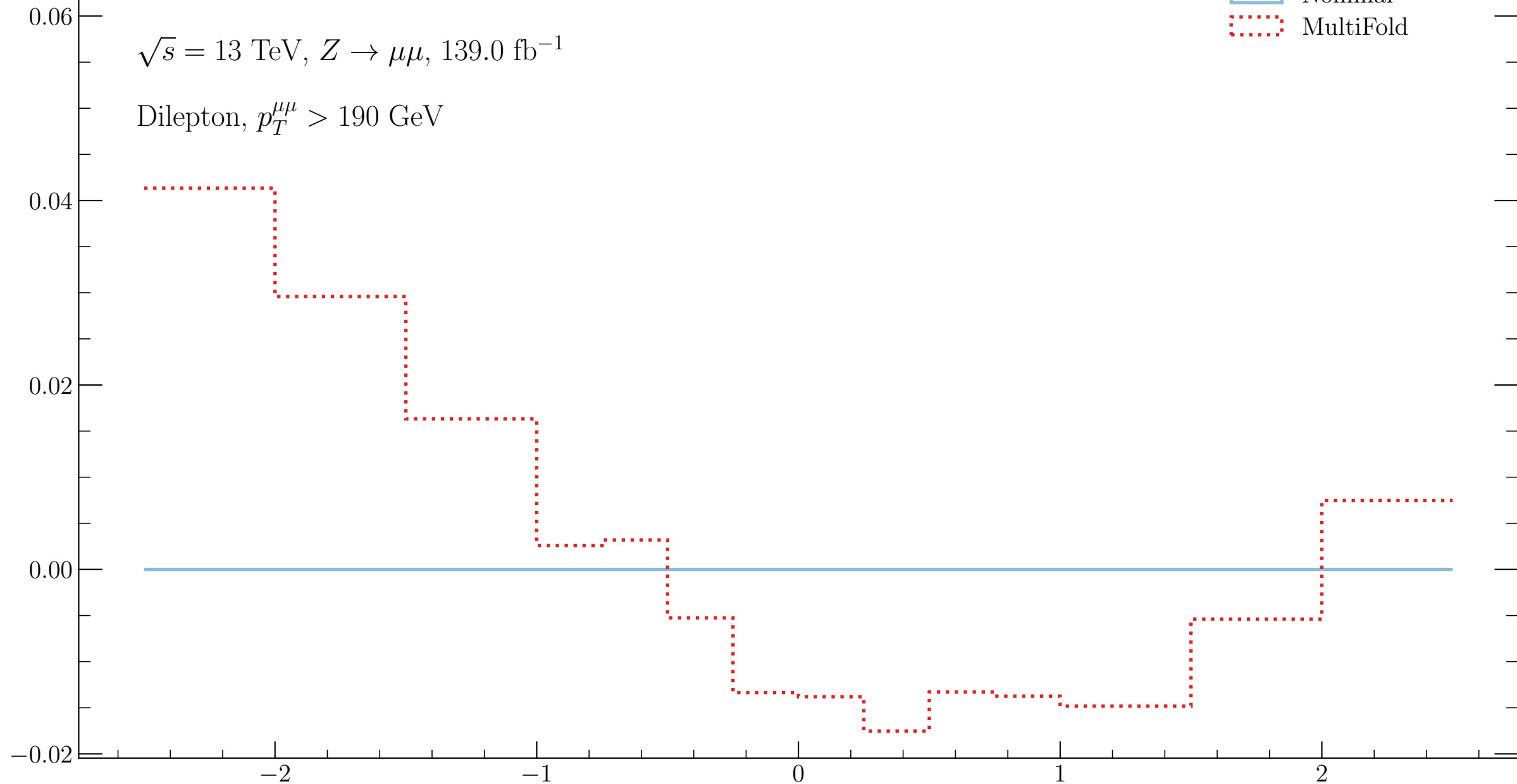


$\eta_{\mu 2}$

ATLAS

Simulation Internal

syst_MSResbias_Down

 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$  Nominal
MultiFold $\eta_{\mu 2}$

ATLAS

Simulation Internal

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

syst_Scale_Up

Nominal
MultiFold0.06
0.04
0.02
0.00
-0.02

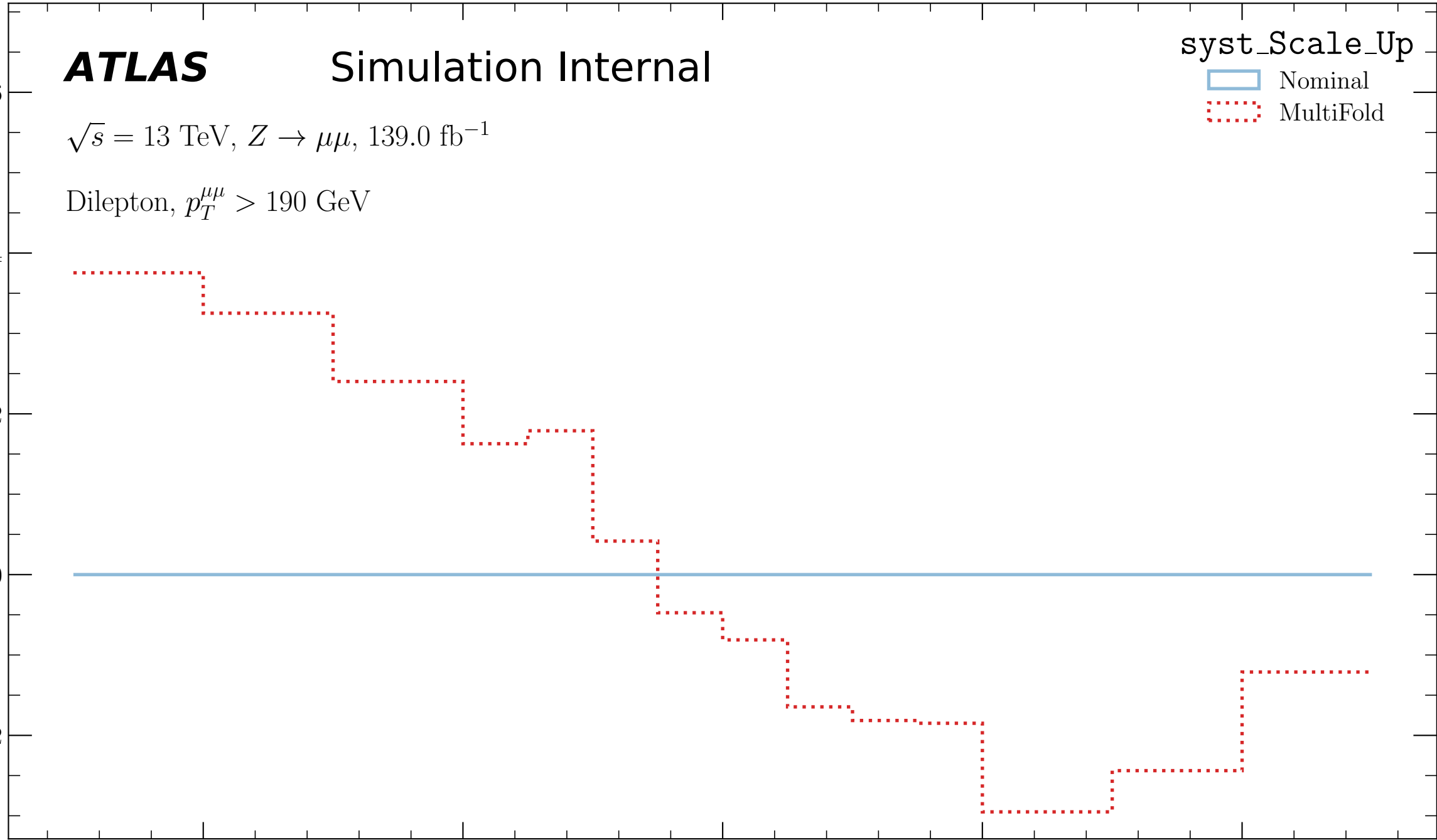
-2

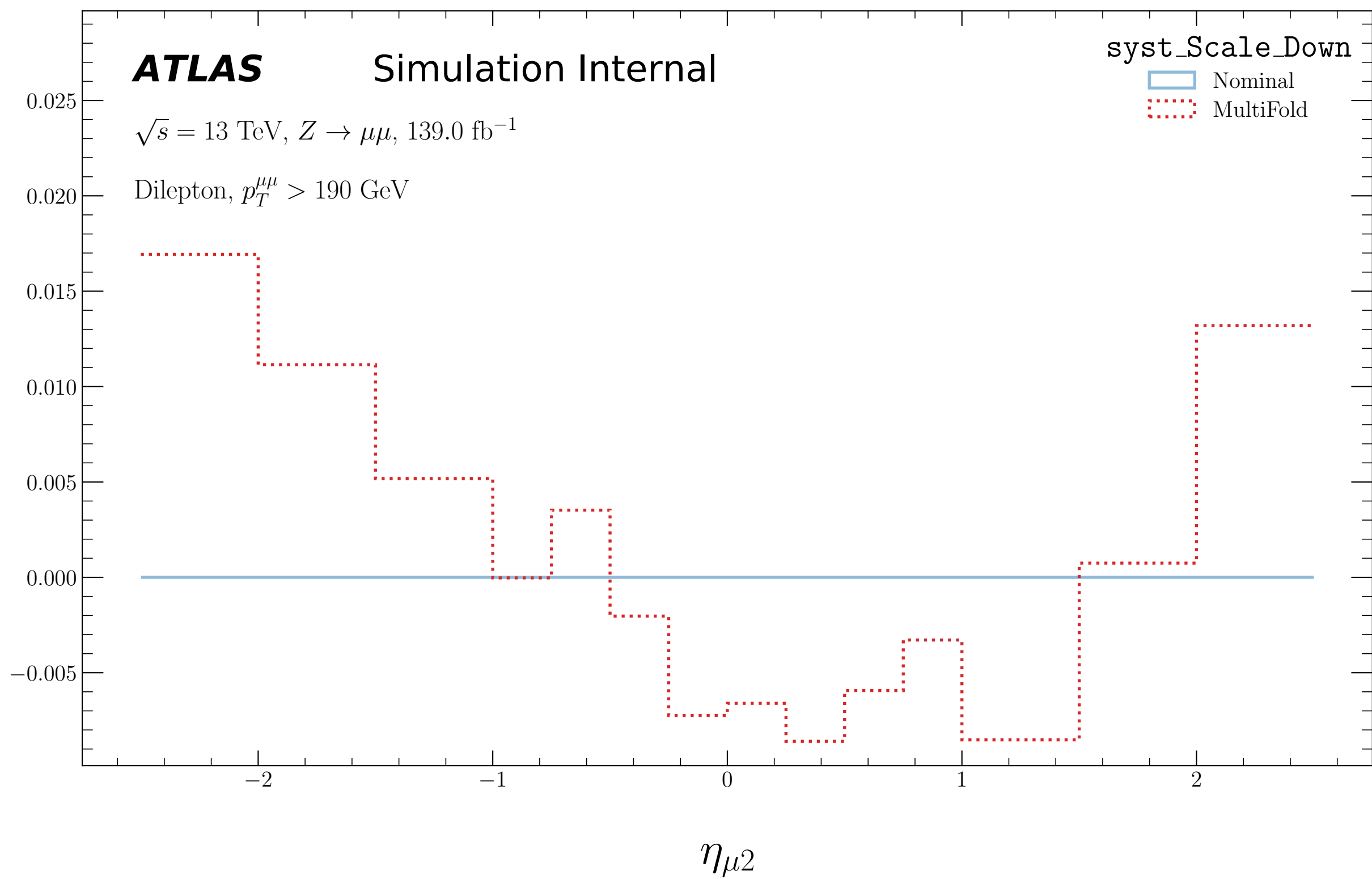
-1

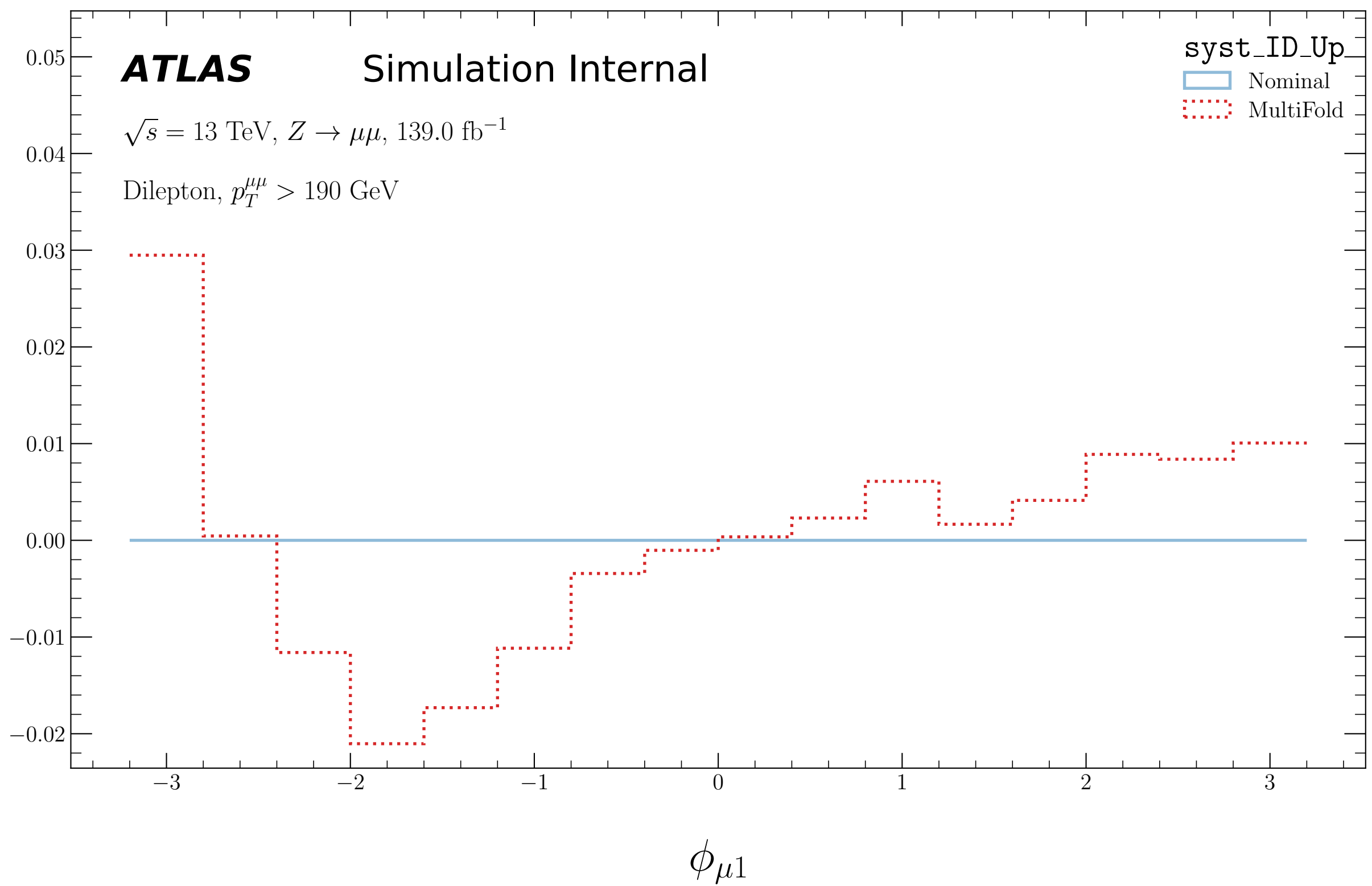
0

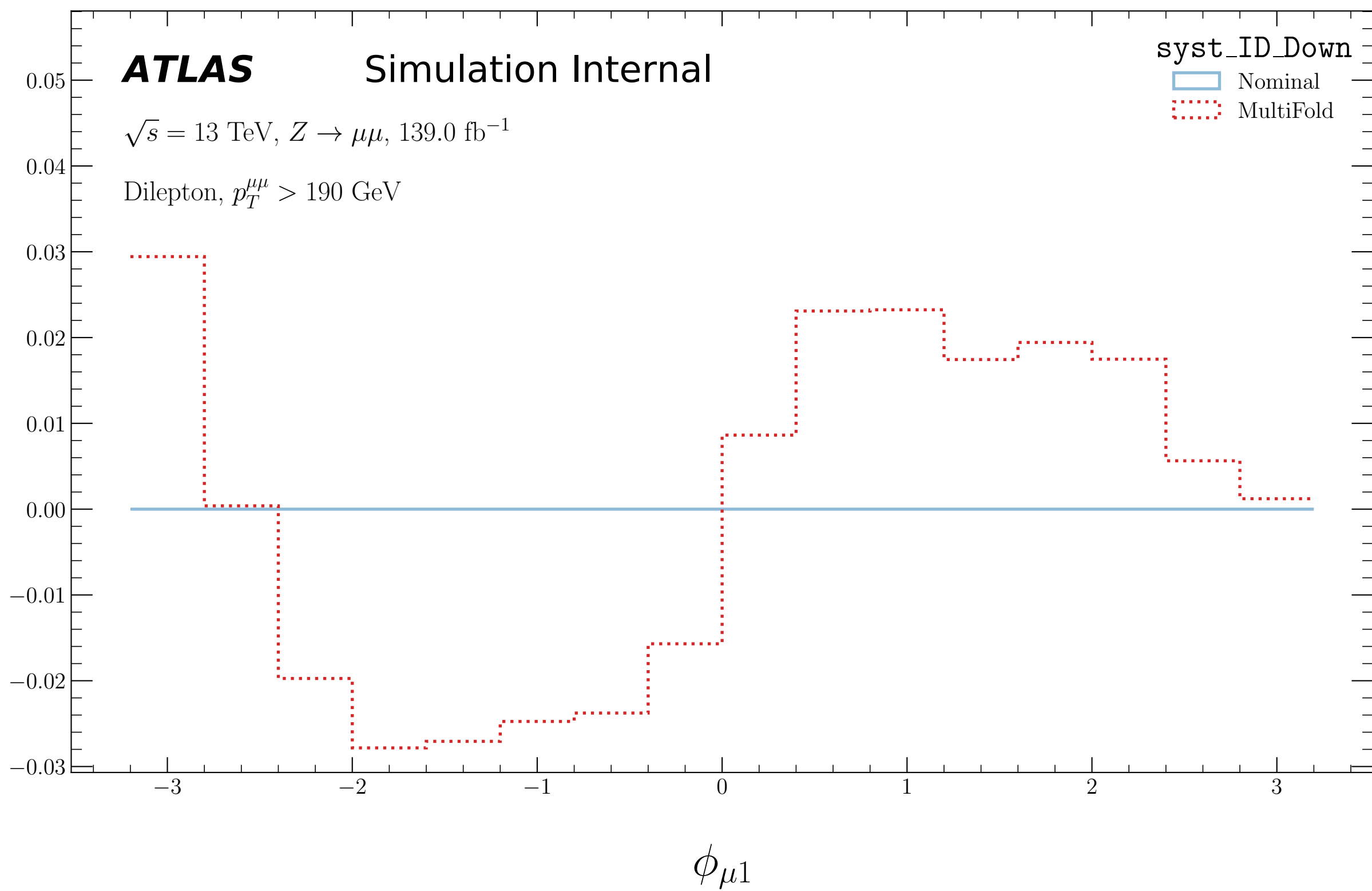
1

2

 $\eta_{\mu 2}$ 







ATLAS

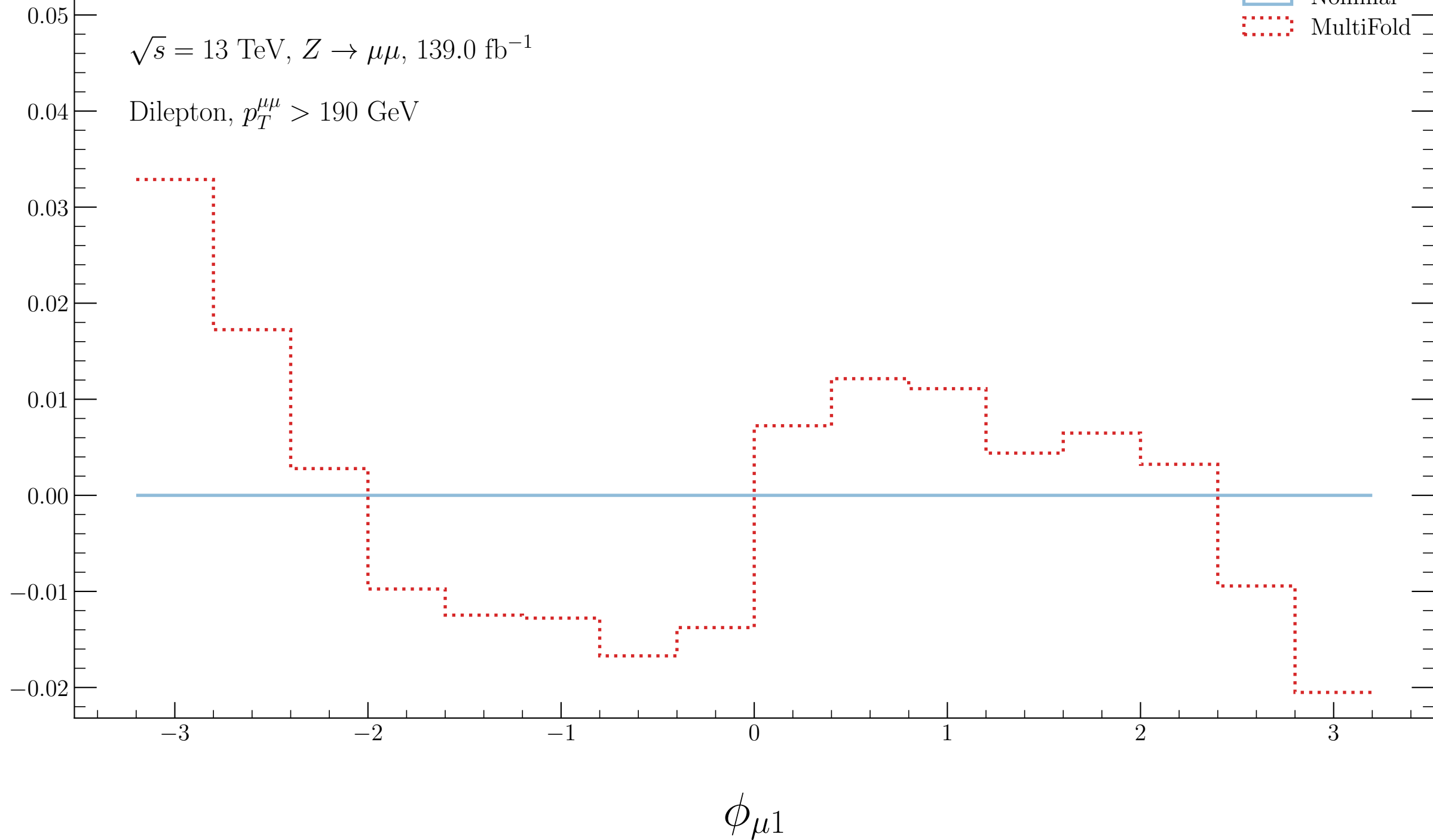
Simulation Internal

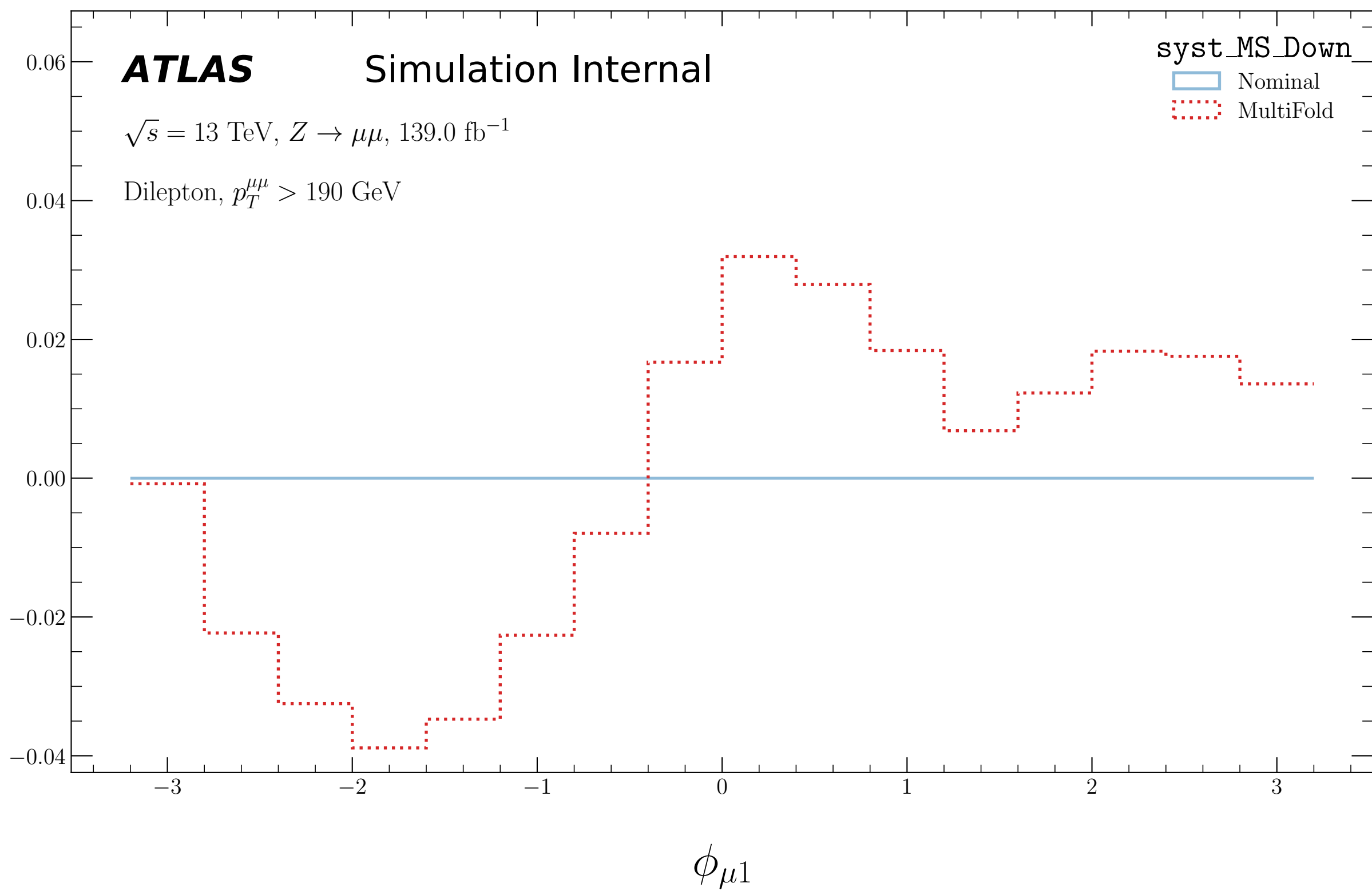
 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_MS_Up

Nominal

MultiFold





ATLAS

Simulation Internal

syst_MSResbias_Up

 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$ Nominal
MultiFold0.06
0.04
0.02
0.00
-0.02
-0.04

-3

-2

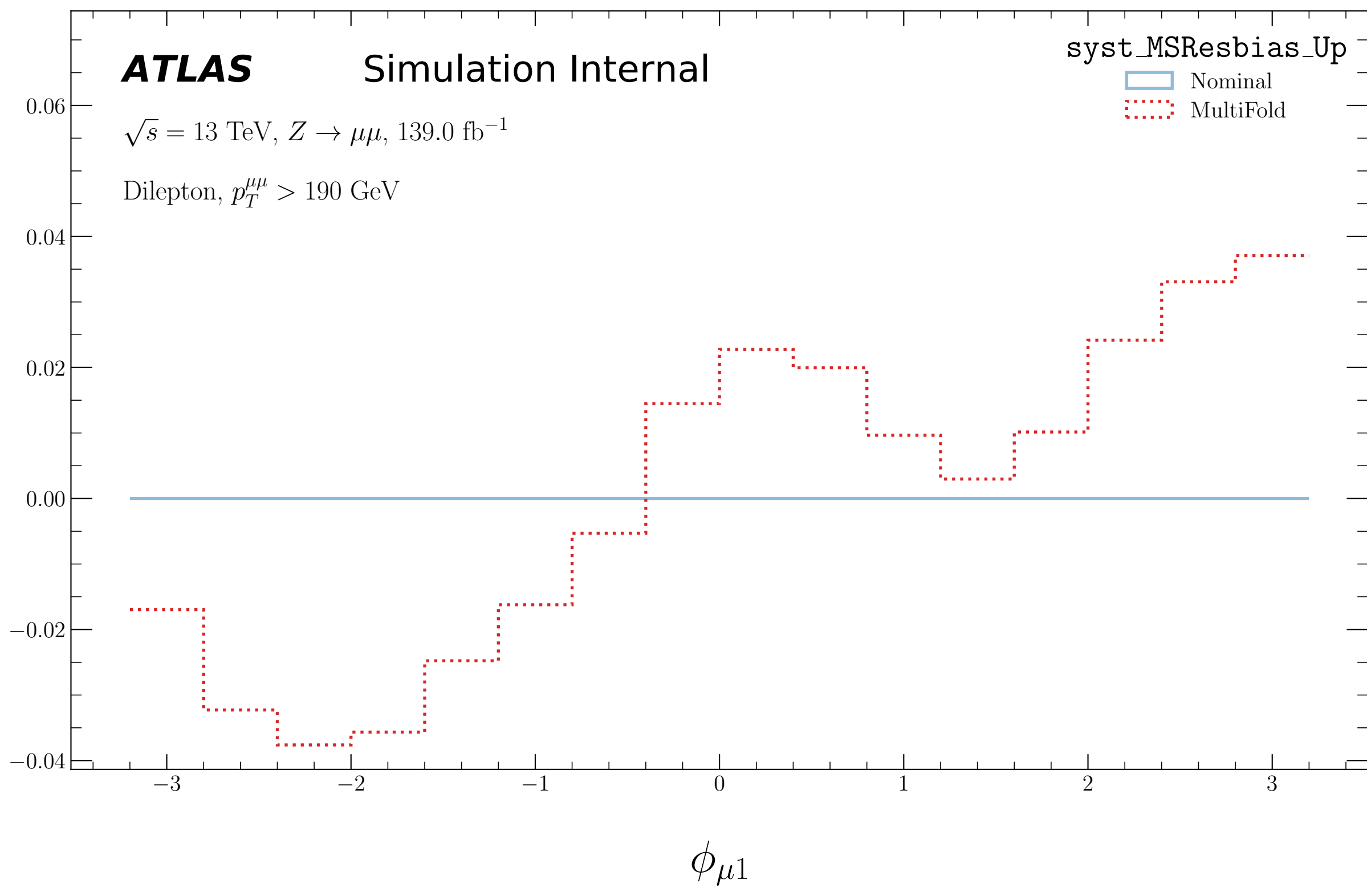
-1

0

1

2

3

 $\phi_{\mu 1}$ 

ATLAS

Simulation Internal

syst_MSResbias_Down

 $\sqrt{s} = 13 \text{ TeV}, Z \rightarrow \mu\mu, 139.0 \text{ fb}^{-1}$ Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$ Nominal
MultiFold0.04
0.03
0.02
0.01
0.00
-0.01
-0.02

-3

-2

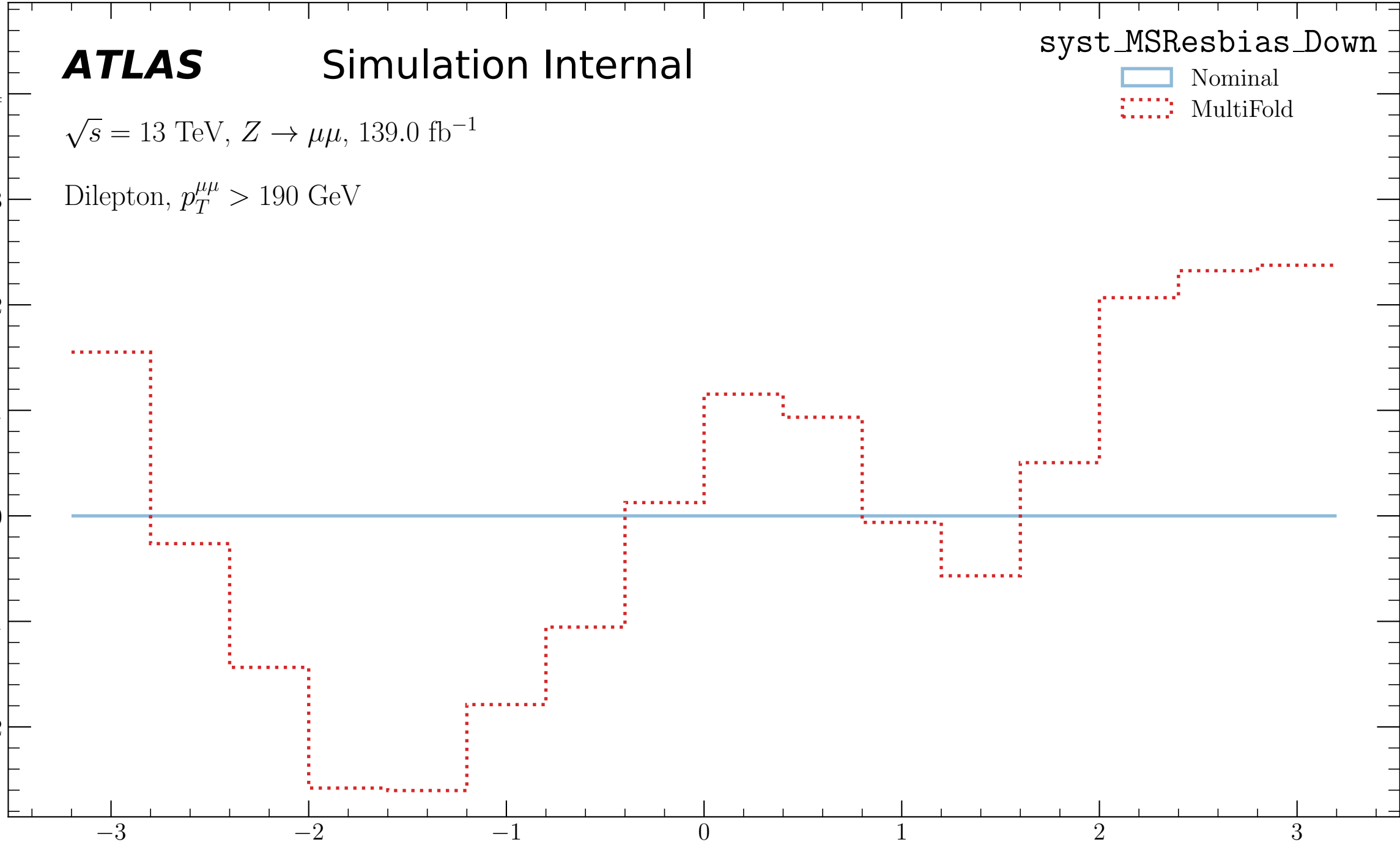
-1

0

1

2

3

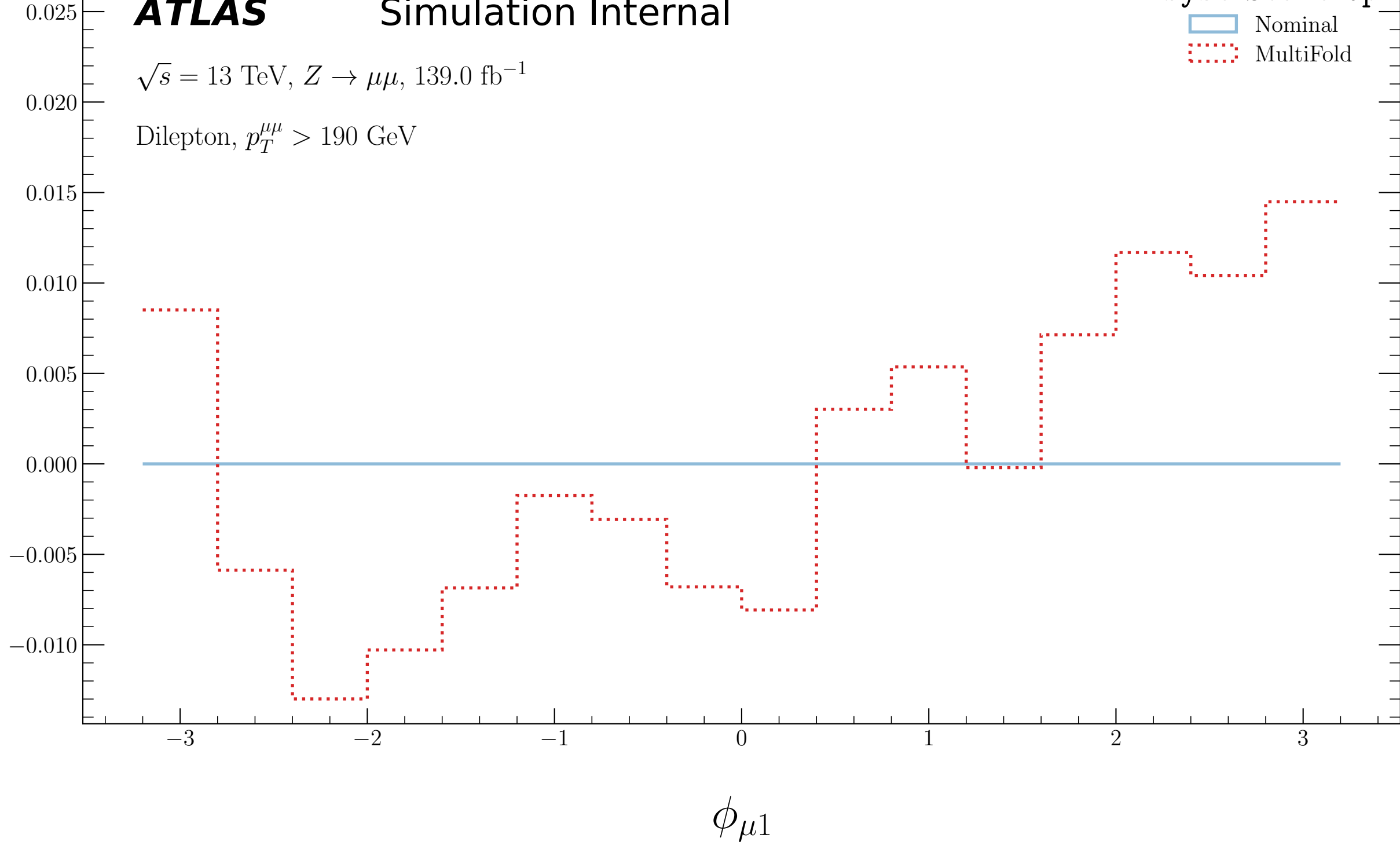
 $\phi_{\mu 1}$ 

ATLAS

Simulation Internal

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

syst_Scale_Up

Nominal
MultiFold

Relative Systematic Effect (MultiFold)

ATLAS

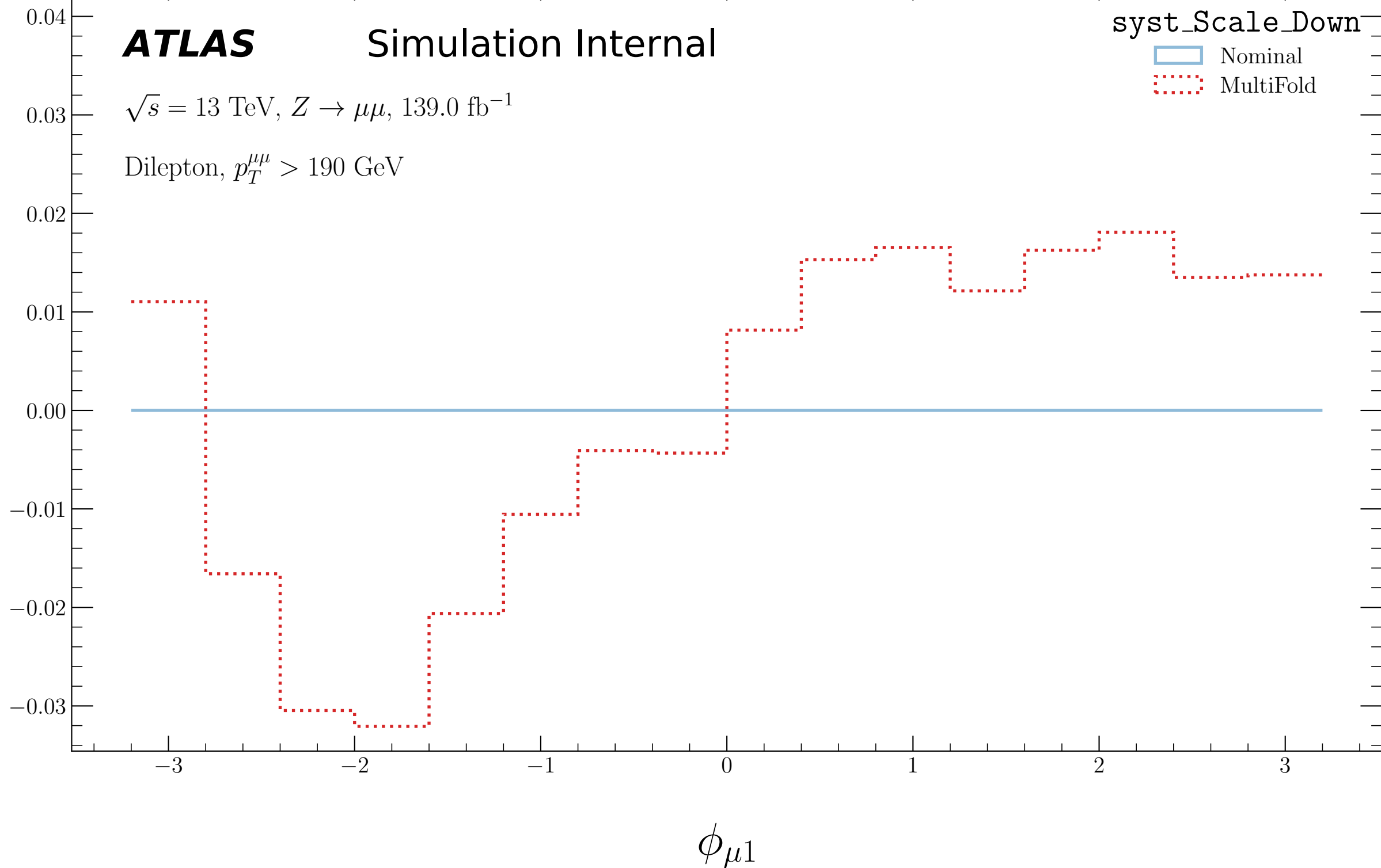
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Down

Nominal
MultiFold



ATLAS

Simulation Internal

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

syst_ID_Up

Nominal

MultiFold

0.025
0.020
0.015
0.010
0.005
0.000
-0.005
-0.010
-0.015

-3

-2

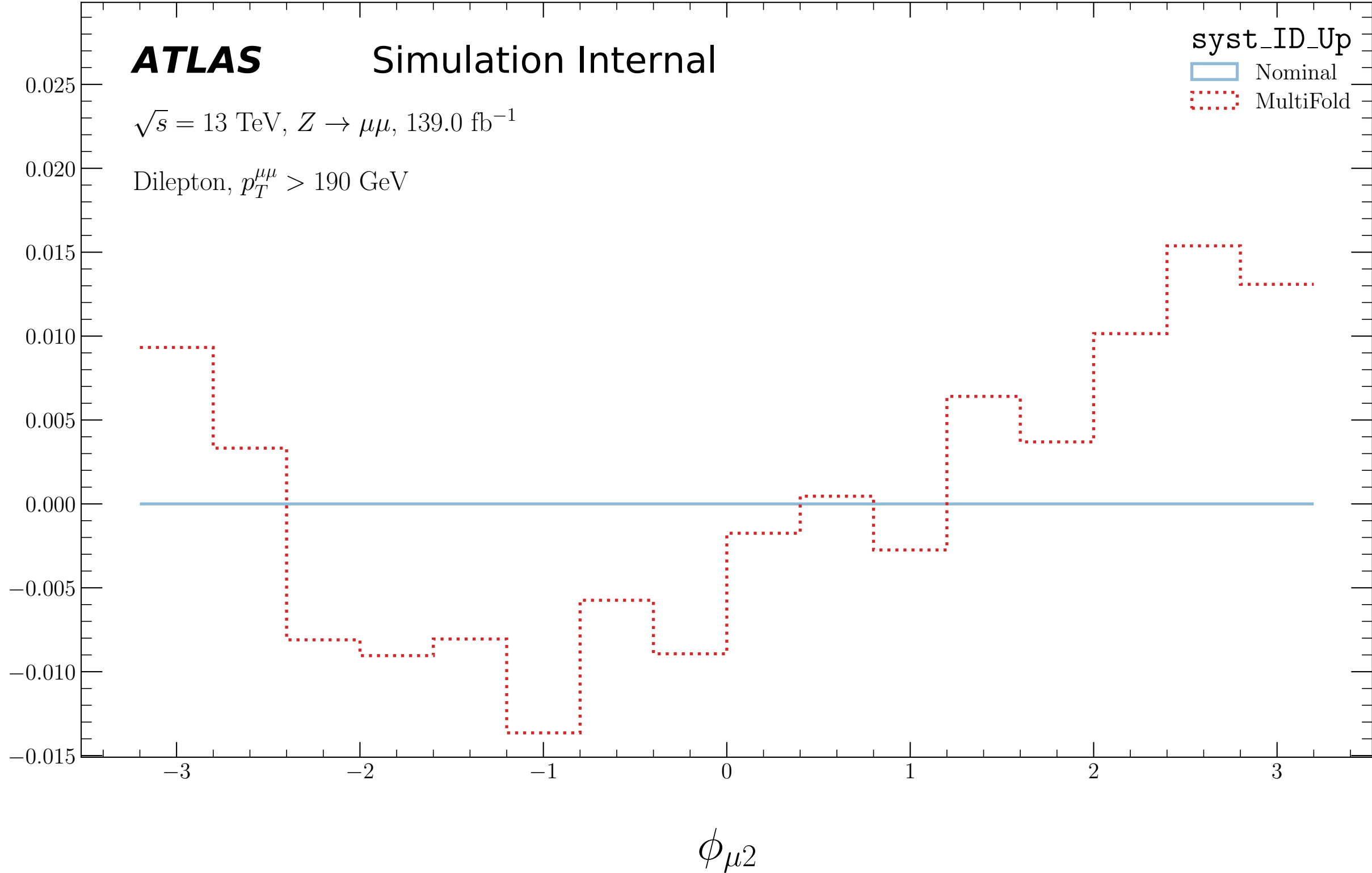
-1

0

1

2

3

 $\phi_{\mu 2}$ 

Relative Systematic Effect (MultiFold)

ATLAS

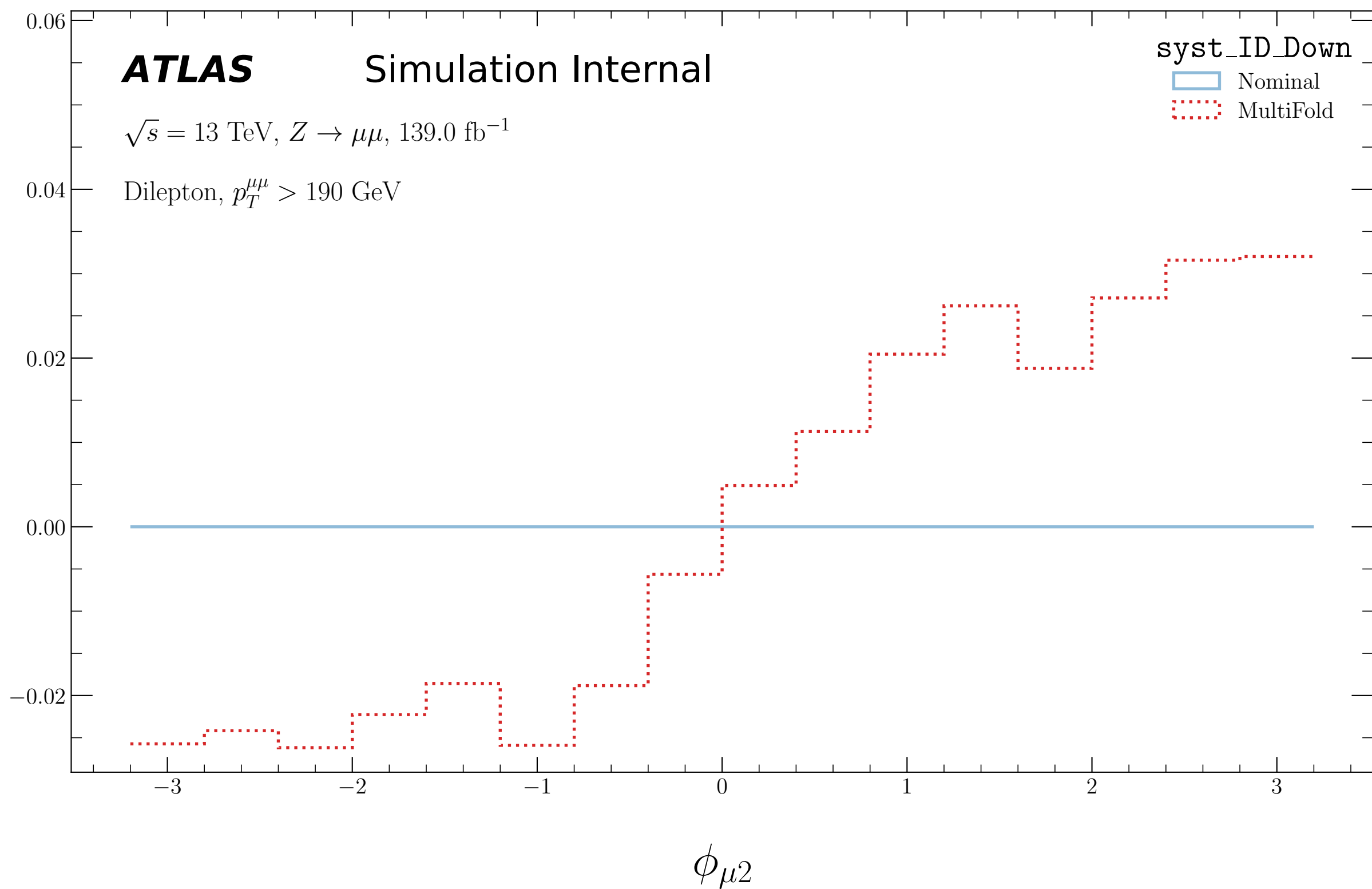
Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_ID_Down

Nominal
MultiFold



ATLAS

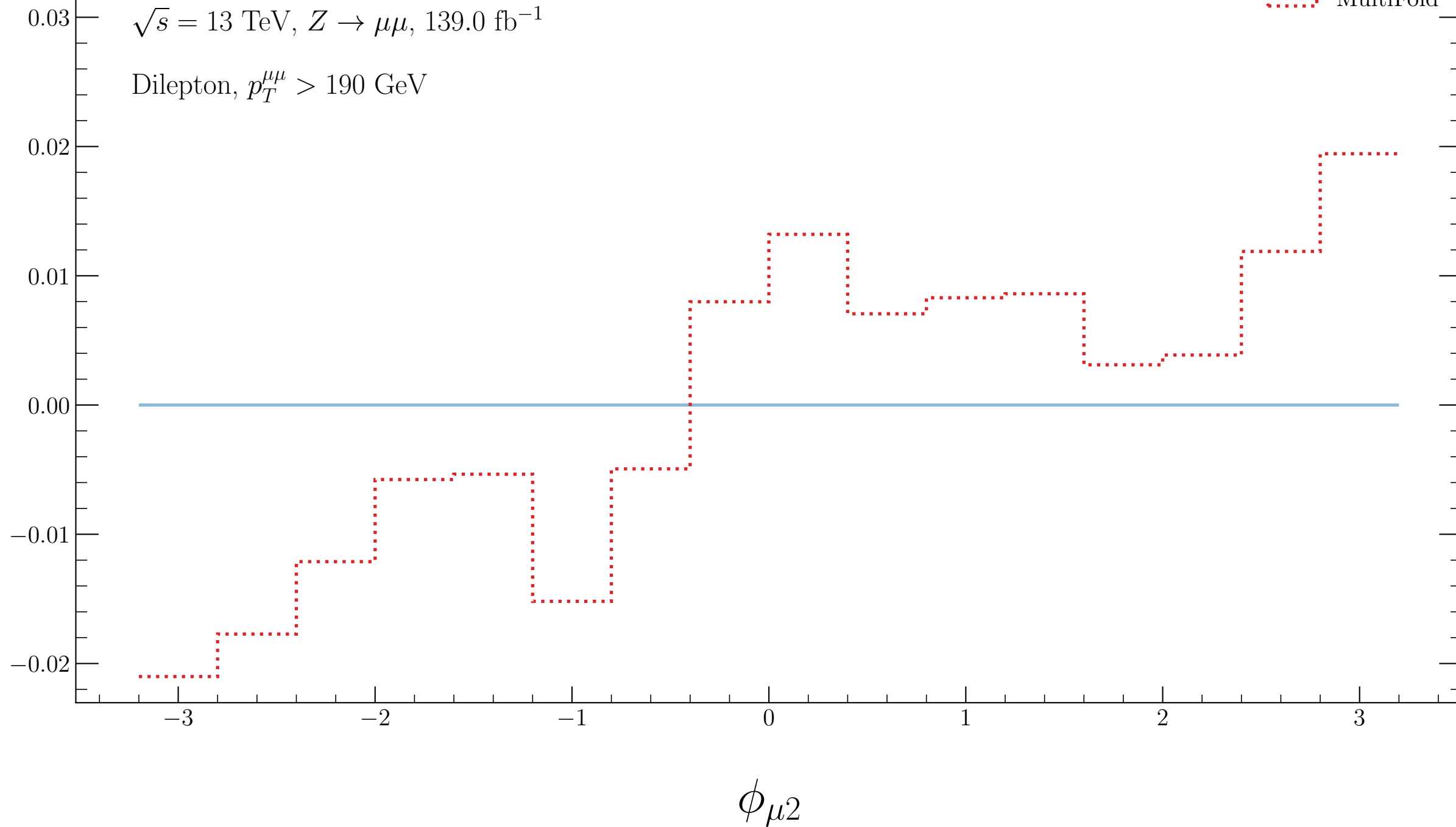
Simulation Internal

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

syst_MS_Up

Nominal

MultiFold

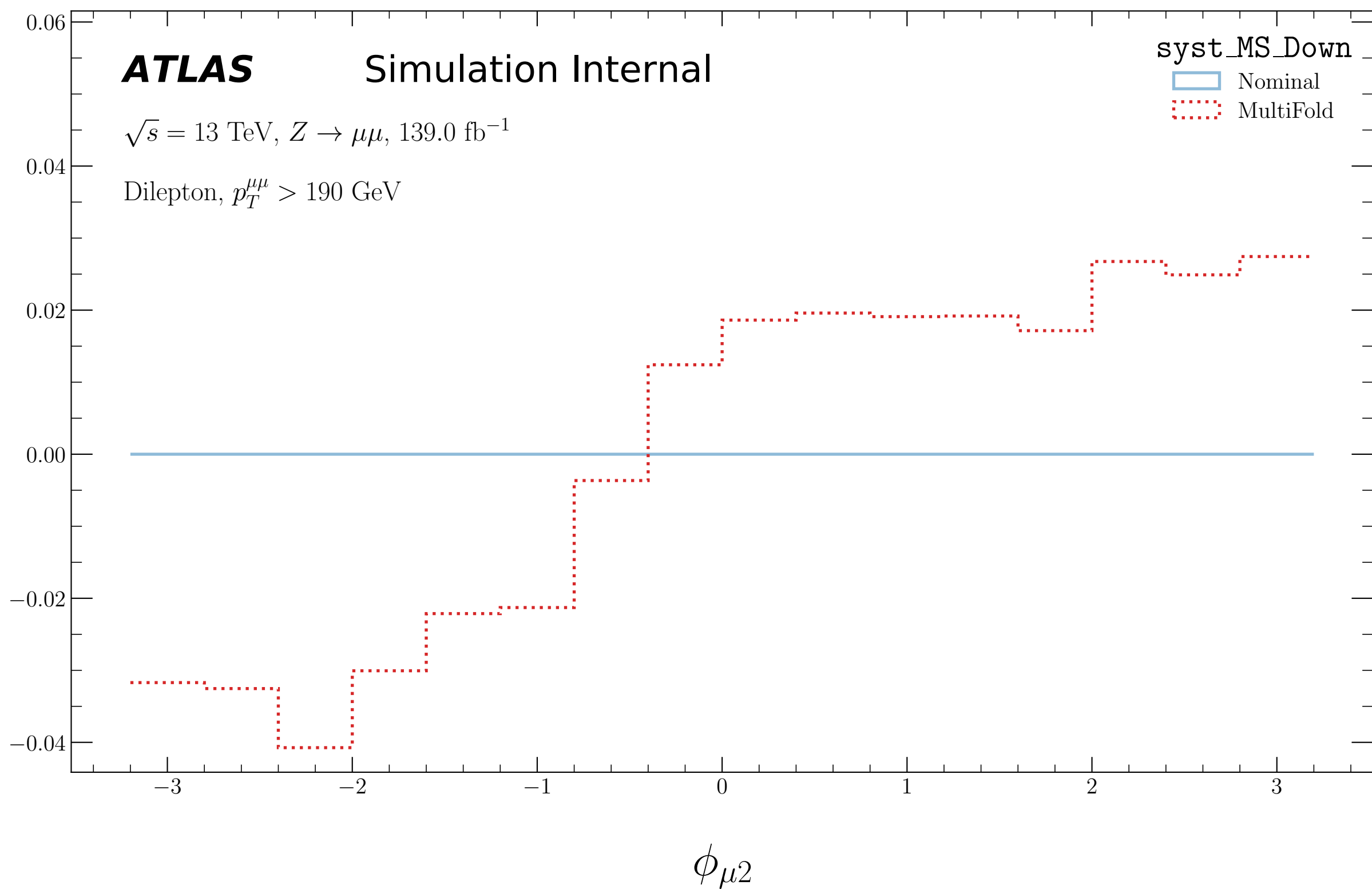


ATLAS

Simulation Internal

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

syst_MS_Down

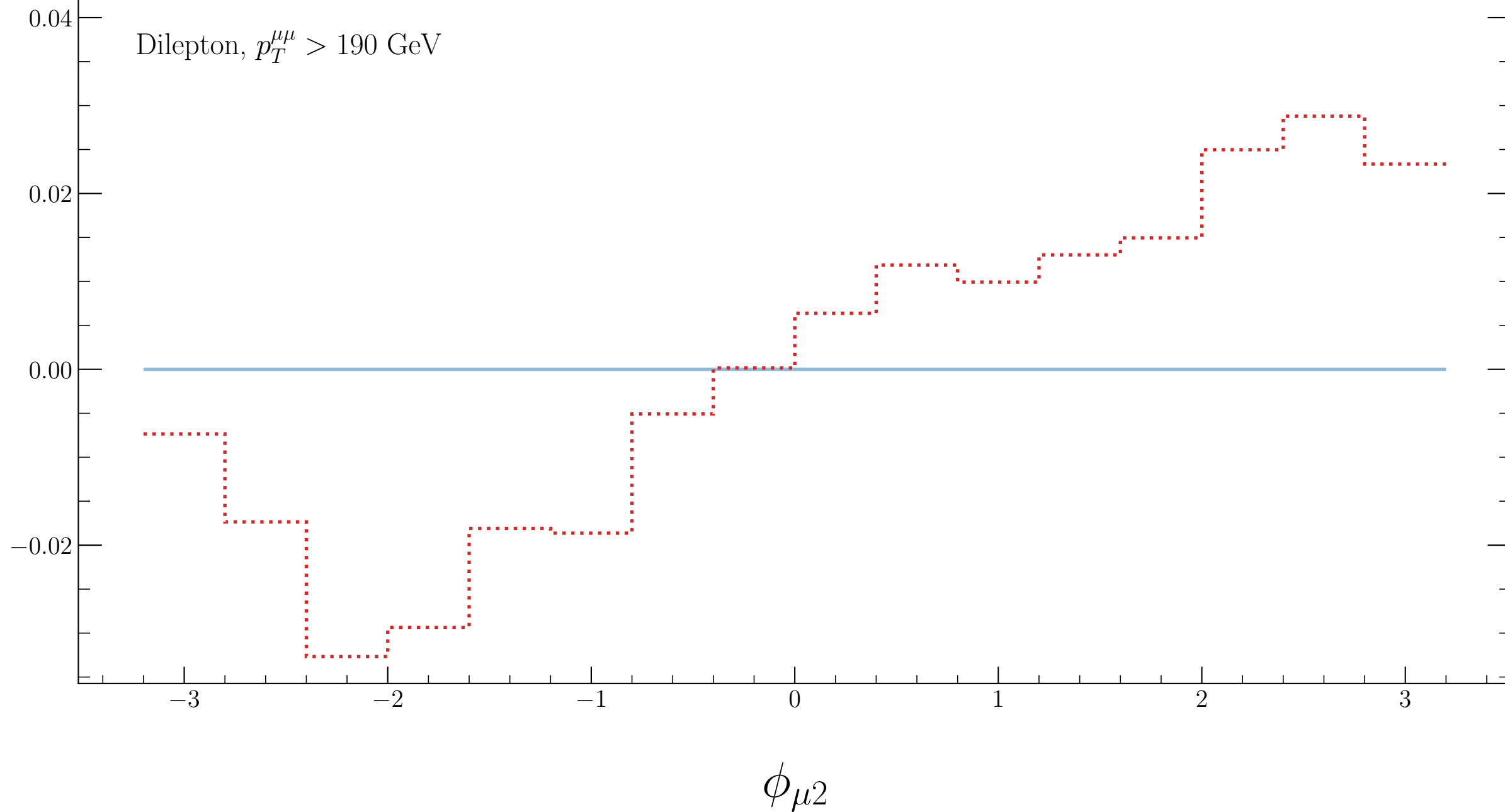
Nominal
MultiFold

ATLAS

Simulation Internal

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

syst_MSResbias_Up

Nominal
MultiFold

Relative Systematic Effect (MultiFold)

ATLAS

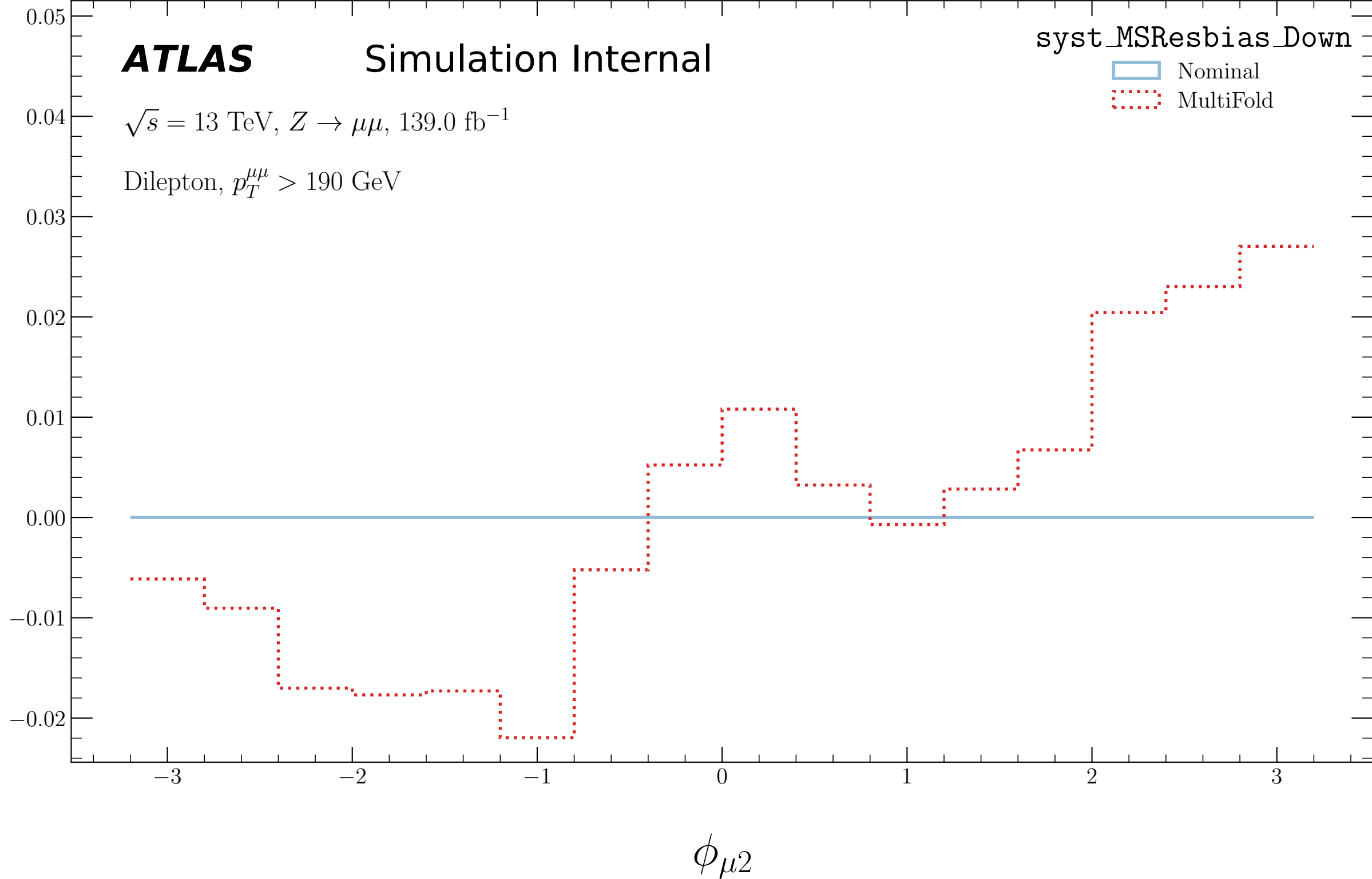
Simulation Internal

syst_MSResbias_Down

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

Nominal
MultiFold

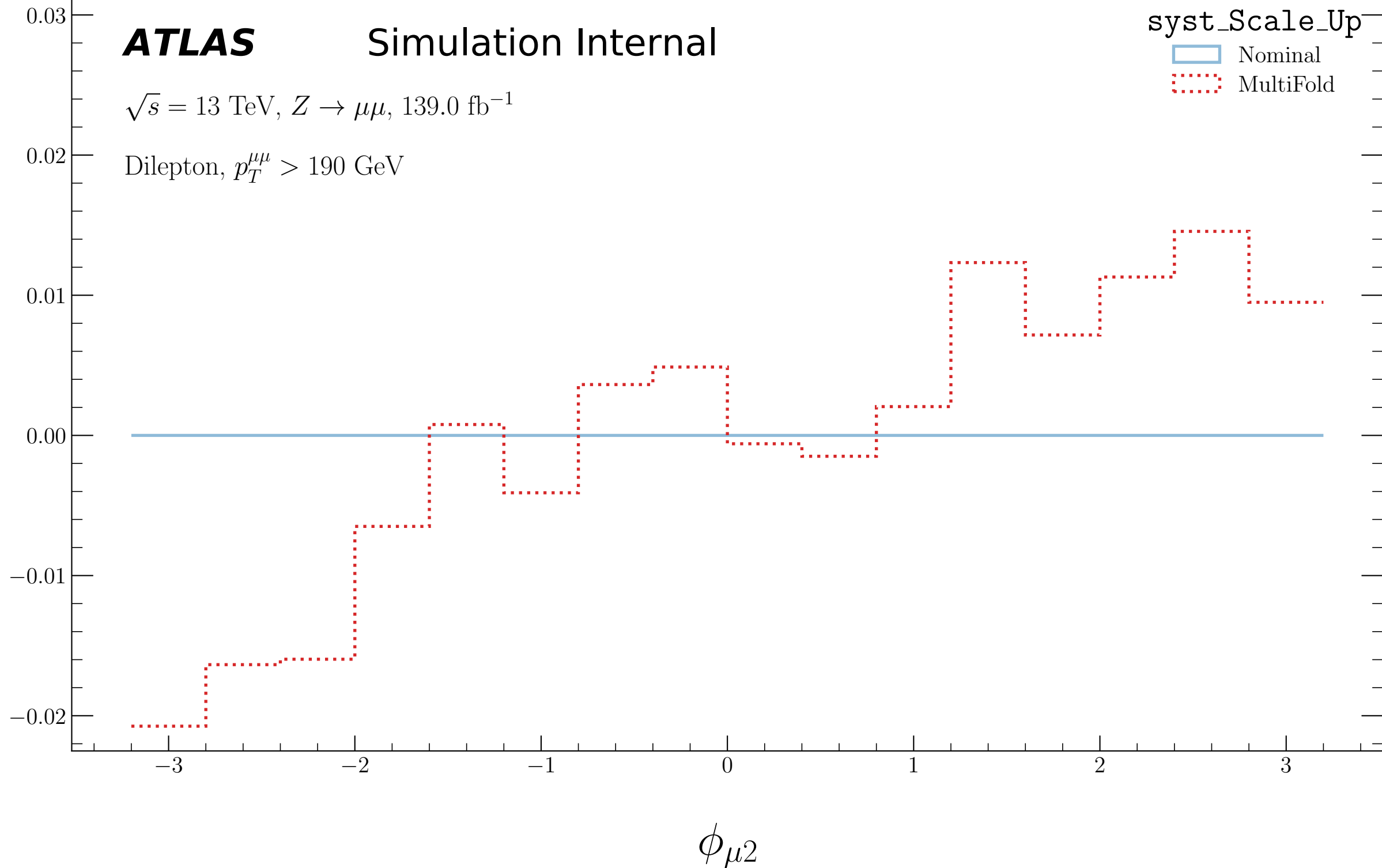


ATLAS

Simulation Internal

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

syst_Scale_Up

Nominal
MultiFold

Relative Systematic Effect (MultiFold)

ATLAS

Simulation Internal

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

Dilepton, $p_T^{\mu\mu} > 190 \text{ GeV}$

syst_Scale_Down

Nominal
MultiFold

