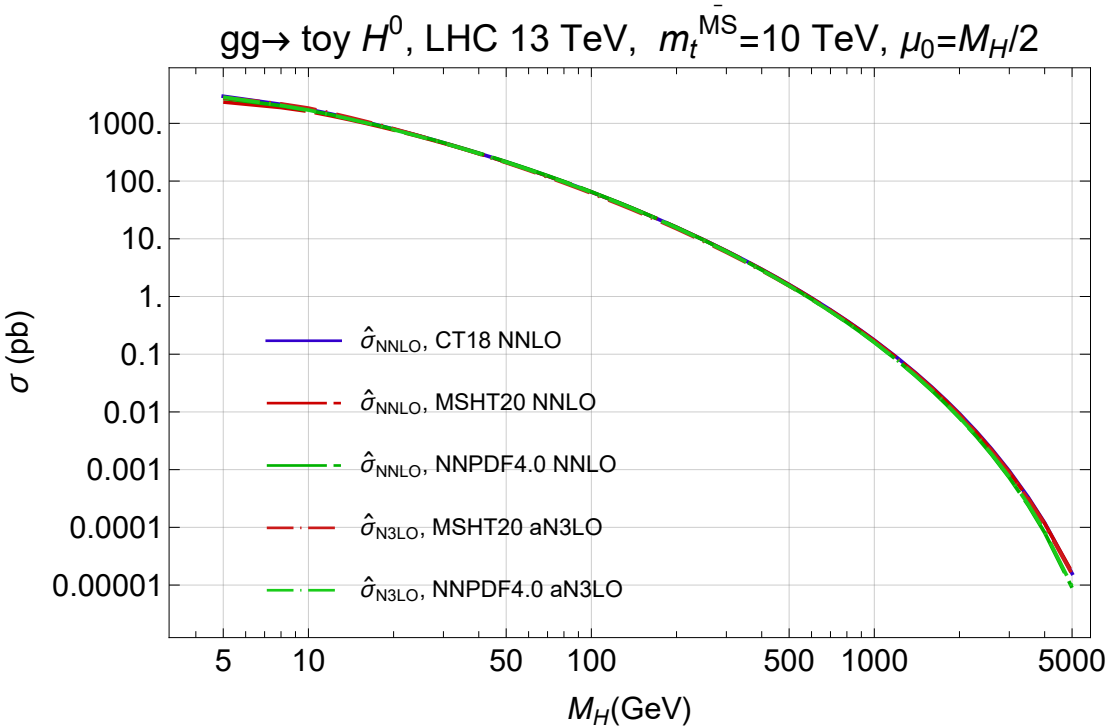
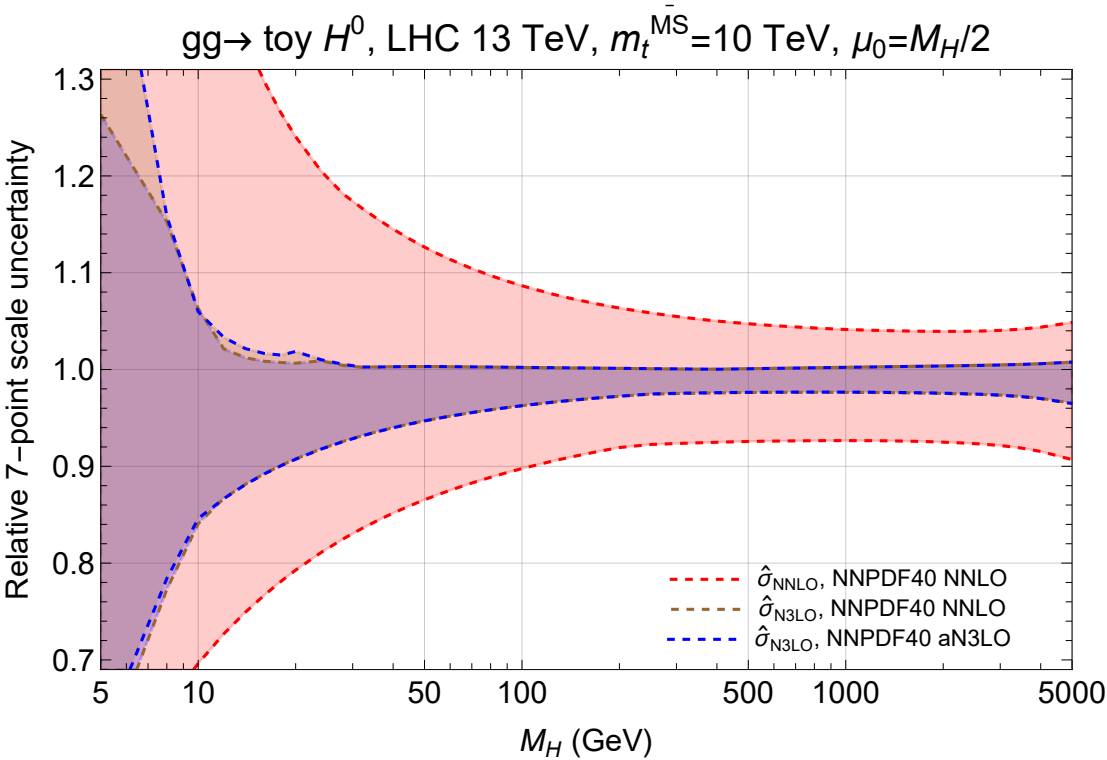
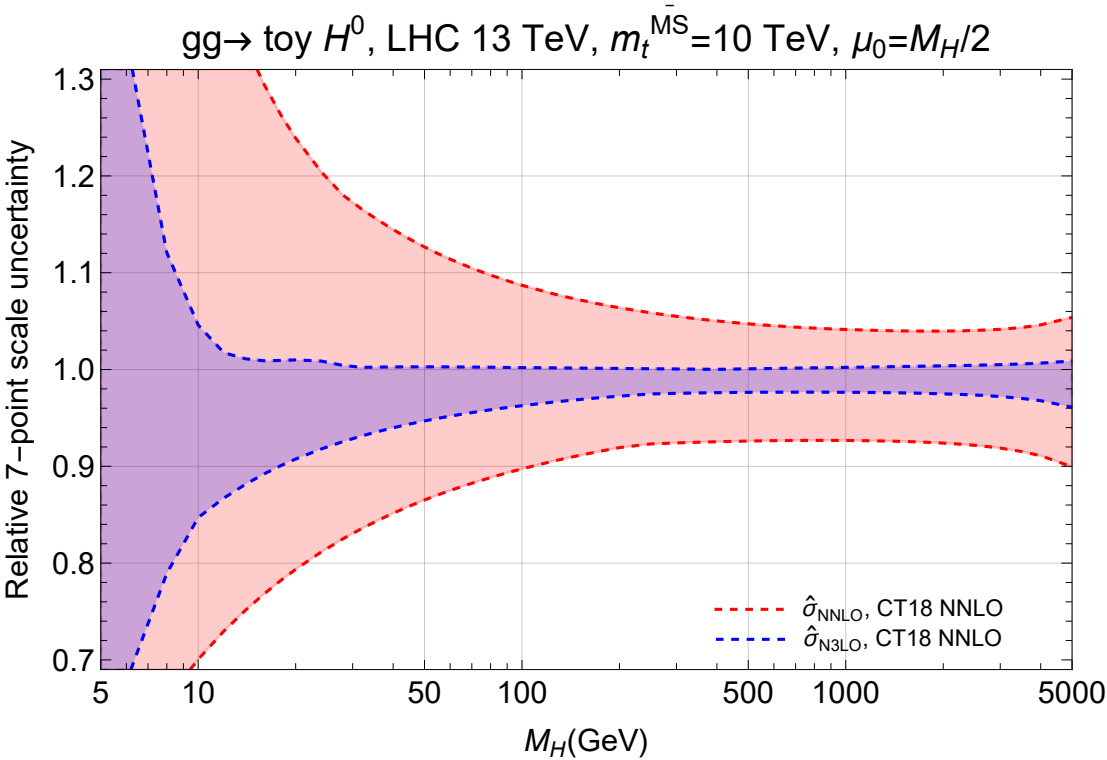
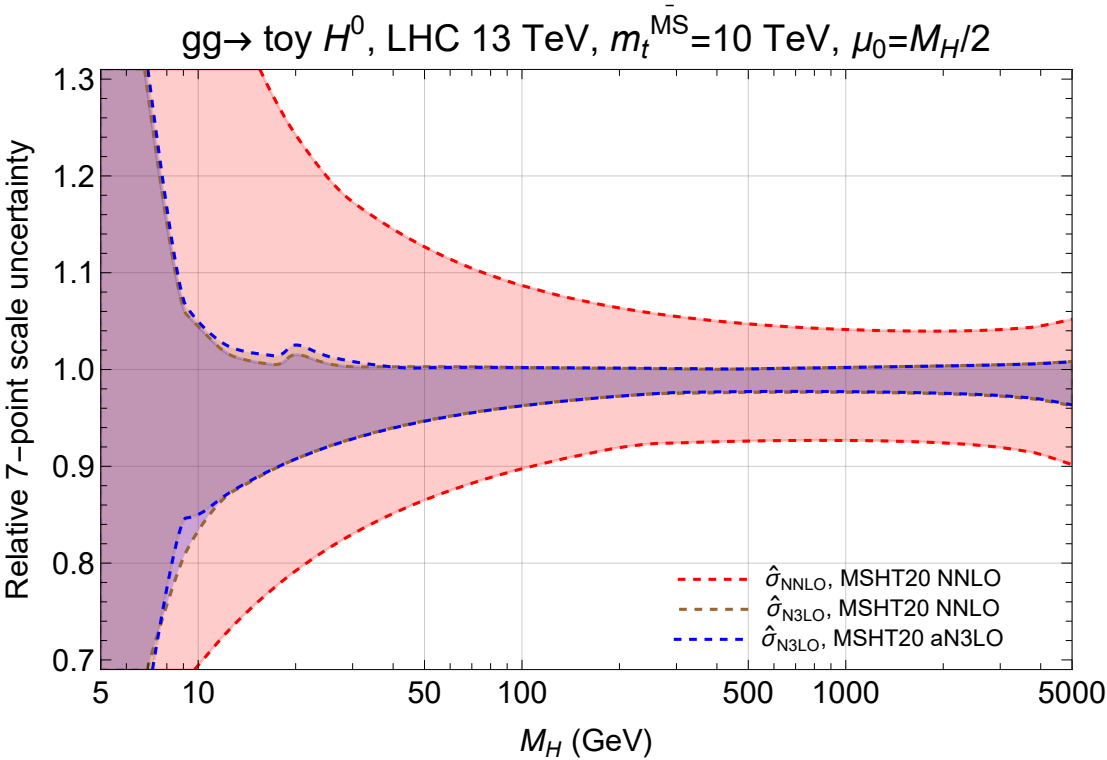
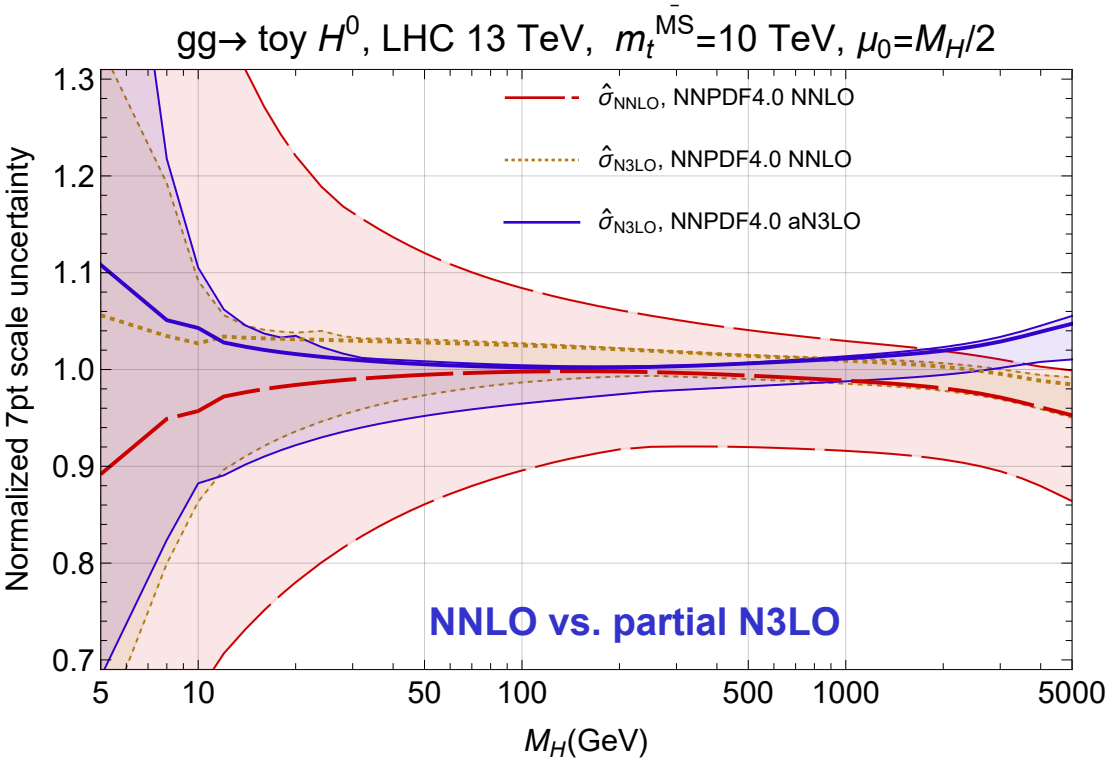
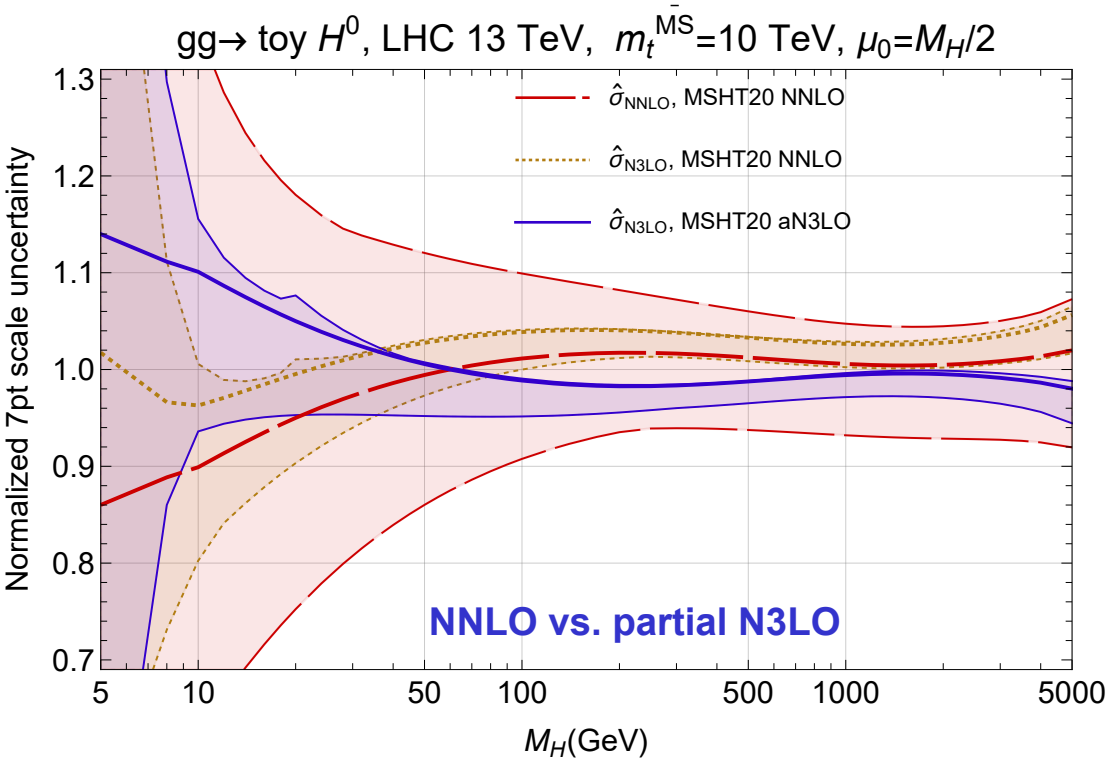

gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, μ_0=M_H/2
1000.
100.
10.
1.
0.1
0.01
0.001
0.0001
0.00001
σ (pb)
$\hat{\sigma}_{\rm NNLO}$, CT18 NNLO
$\hat{\sigma}_{\rm NNLO}$, MSHT20 NNLO
$\hat{\sigma}_{\rm NNLO}$, NNPDF4.0 NNLO
$\hat{\sigma}_{\rm N3LO}$, MSHT20 aN3LO
$\hat{\sigma}_{\rm N3LO}$, NNPDF4.0 aN3LO
5
10
50
100
500
1000
5000
M_H(GeV)

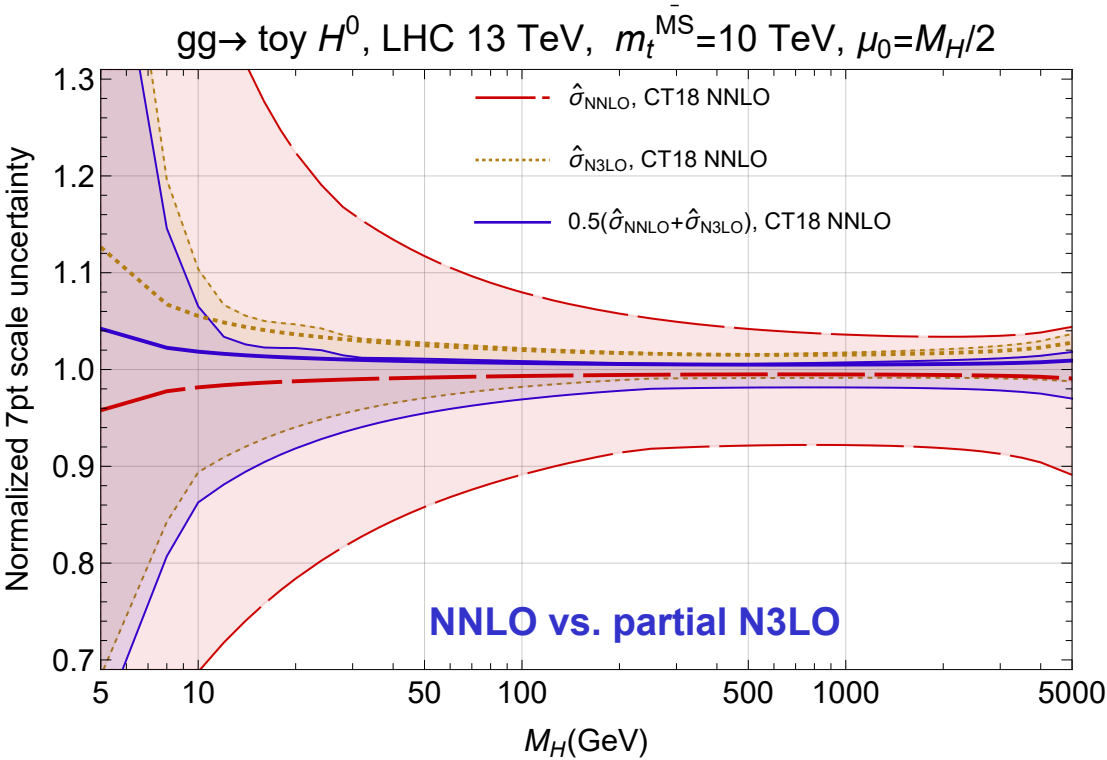

gg→ toy H^0, LHC 13 Tev, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
Relative 7−point scale uncertainty
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000
M_H (GeV)
$\hat{\sigma}_{\rm NNLO}$, NNPDF40 NNLO
$\hat{\sigma}_{\rm N3LO}$, NNPDF40 NNLO
$\hat{\sigma}_{\rm N3LO}$, NNPDF40 aN3LO

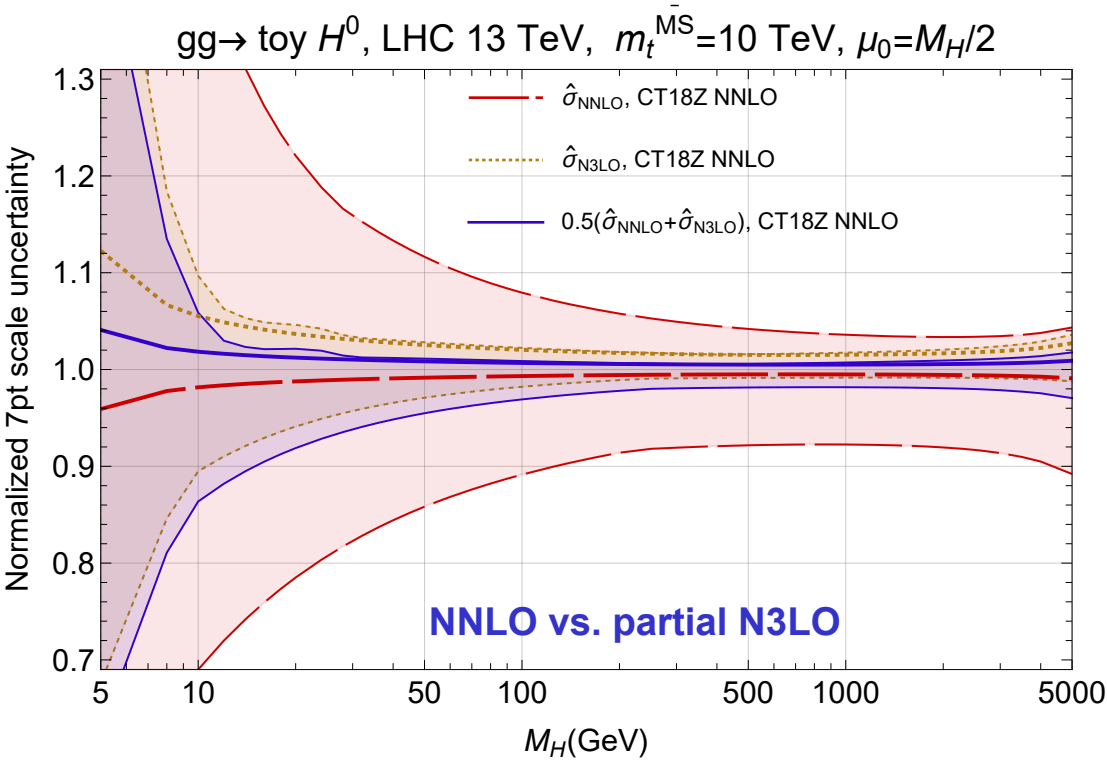

gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
Relative 7−point scale uncertainty
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000
M_H(GeV)
$\hat{\sigma}_{\rm NNLO}$, CT18 NNLO
$\hat{\sigma}_{\rm N3LO}$, CT18 NNLO

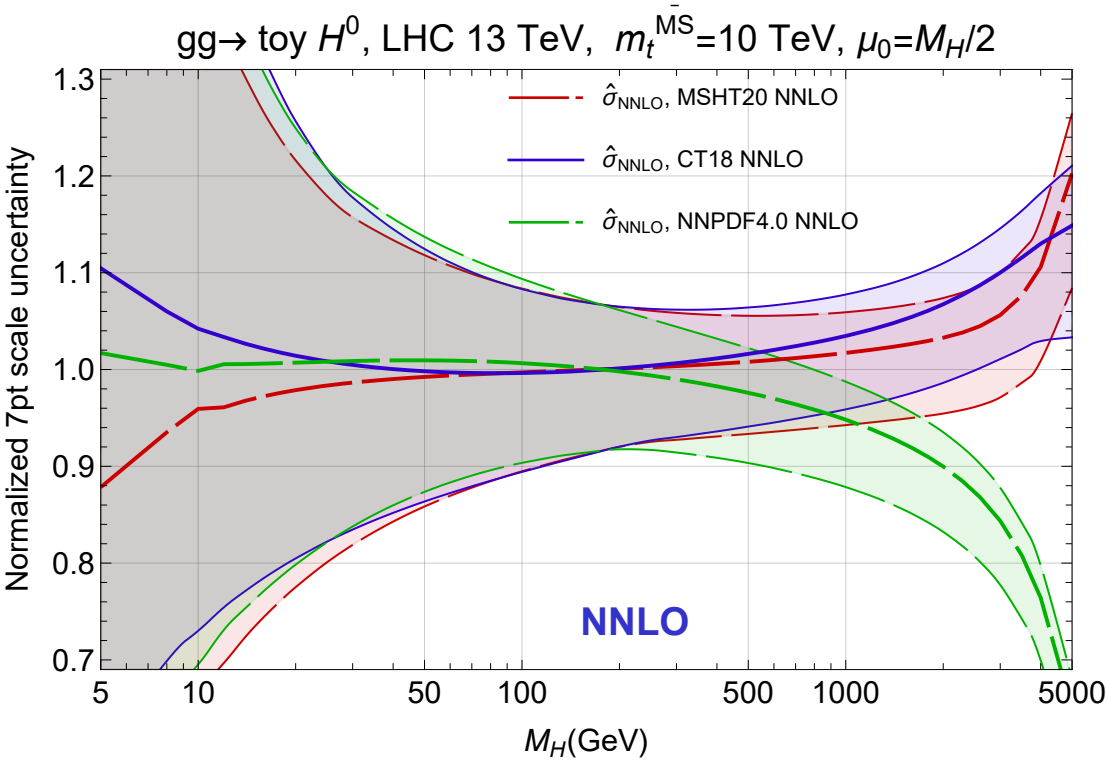

gg→ toy H^0, LHC 13 Tev, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
Relative 7−point scale uncertainty
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000
M_H (GeV)
$\hat{\sigma}_{\rm NNLO}$, MSHT20 NNLO
$\hat{\sigma}_{\rm N3LO}$, MSHT20 NNLO
$\hat{\sigma}_{\rm N3LO}$, MSHT20 aN3LO

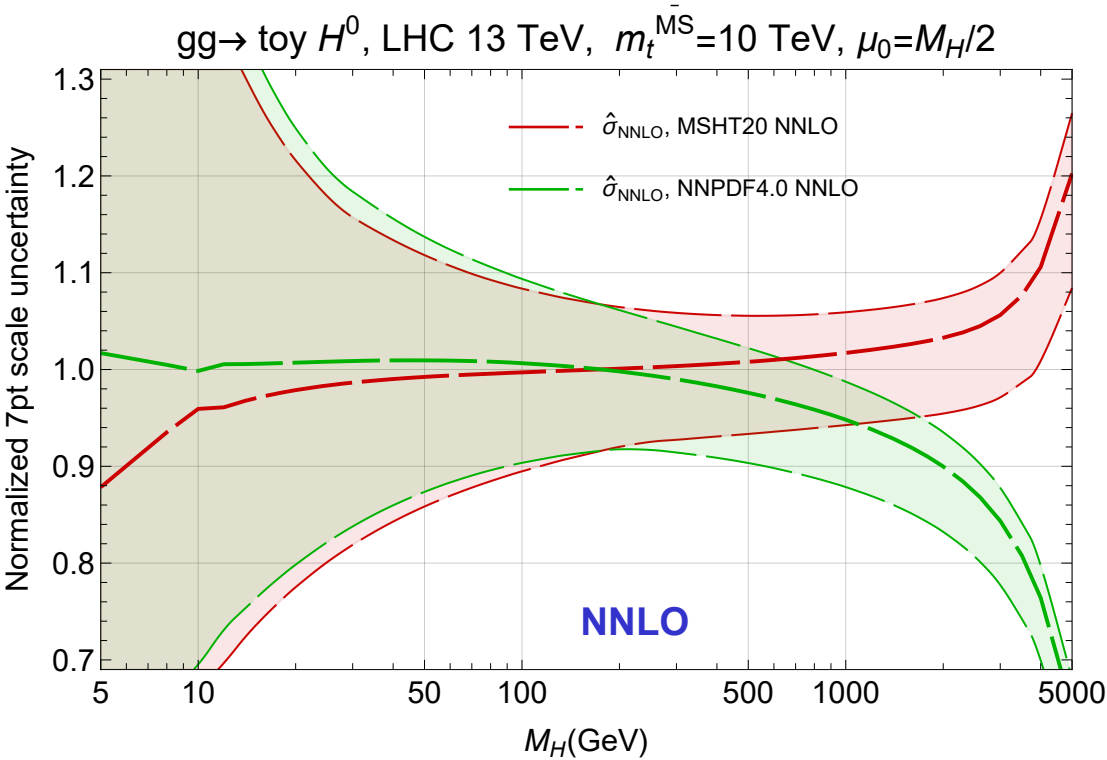

gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
$\hat{\sigma}_{\rm NNLO}$, NNPDF4.0 NNLO
$\hat{\sigma}_{\rm N3LO}$, NNPDF4.0 NNLO
$\hat{\sigma}_{\rm N3LO}$, NNPDF4.0 aN3LO
NNLO vs. partial N3LO
Normalized 7pt scale uncertainty
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000
M_H(GeV)

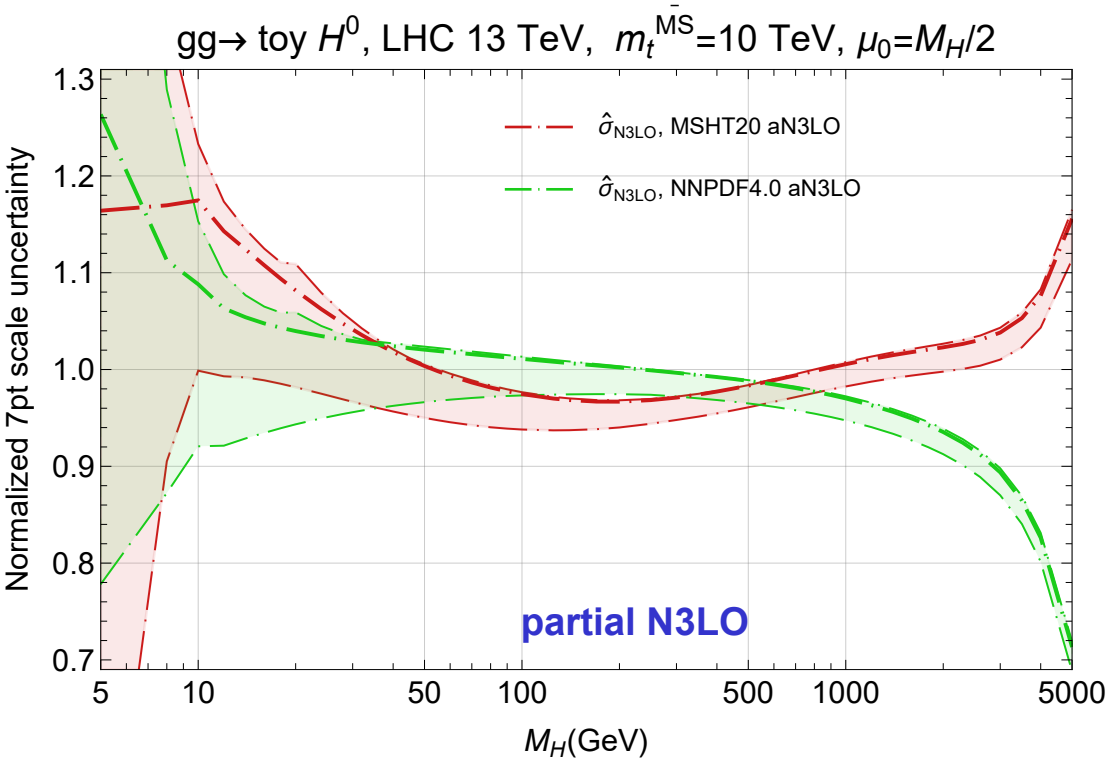

gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
$\hat{\sigma}_{\rm NNLO}$, MSHT20 NNLO
$\hat{\sigma}_{\rm N3LO}$, MSHT20 NNLO
$\hat{\sigma}_{\rm N3LO}$, MSHT20 aN3LO
NNLO vs. partial N3LO
Normalized 7pt scale uncertainty
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000
M_H(GeV)

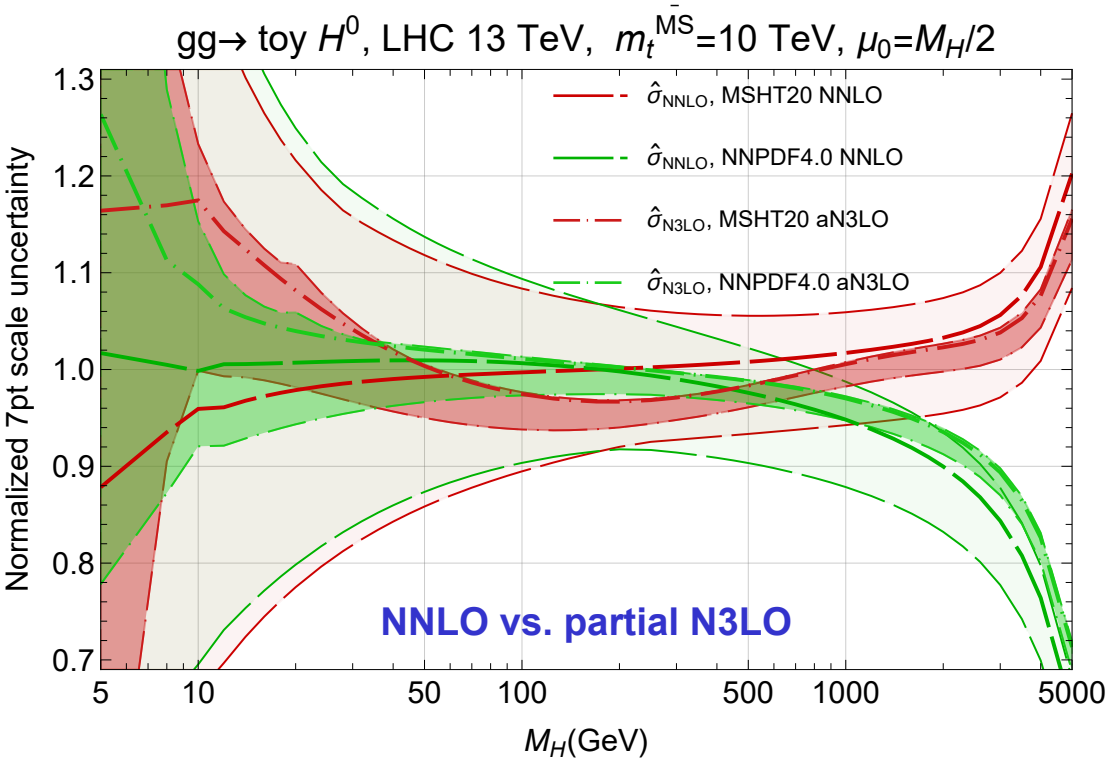

gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
$\hat{\sigma}_{\rm NNLO}$, CT18 NNLO
$\hat{\sigma}_{\rm N3LO}$, CT18 NNLO
$0.5(\hat{\sigma}_{\rm NNLO}+\hat{\sigma}_{\rm N3LO})$, CT18 NNLO
NNLO vs. partial N3LO
Normalized 7pt scale uncertainty
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000
M_H(GeV)

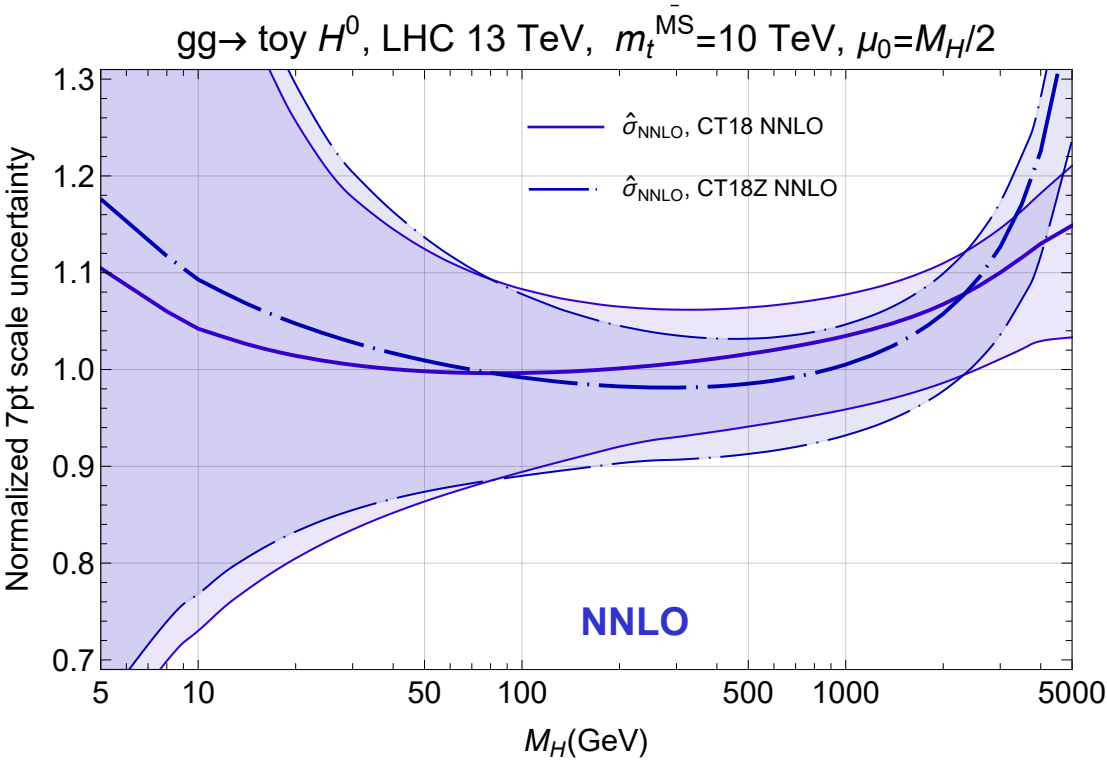

gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
$\hat{\sigma}_{\rm NNLO}$, CT18Z NNLO
$\hat{\sigma}_{\rm N3LO}$, CT18Z NNLO
$0.5(\hat{\sigma}_{\rm NNLO}+\hat{\sigma}_{\rm N3LO})$, CT18Z NNLO
NNLO vs. partial N3LO
Normalized 7pt scale uncertainty
M_H(GeV)
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000

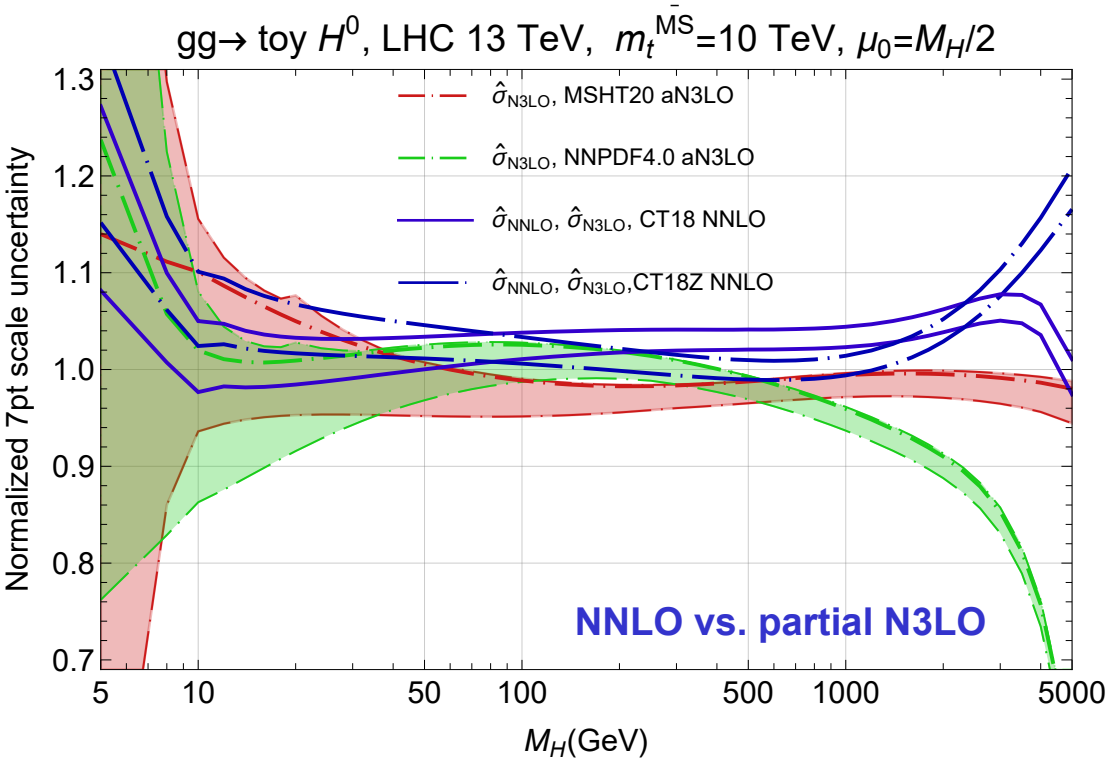

gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
$\hat{\sigma}_{\rm NNLO}$, MSHT20 NNLO
$\hat{\sigma}_{\rm NNLO}$, CT18 NNLO
$\hat{\sigma}_{\rm NNLO}$, NNPDF4.0 NNLO
NNLO
Normalized 7pt scale uncertainty
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000
M_H(GeV)

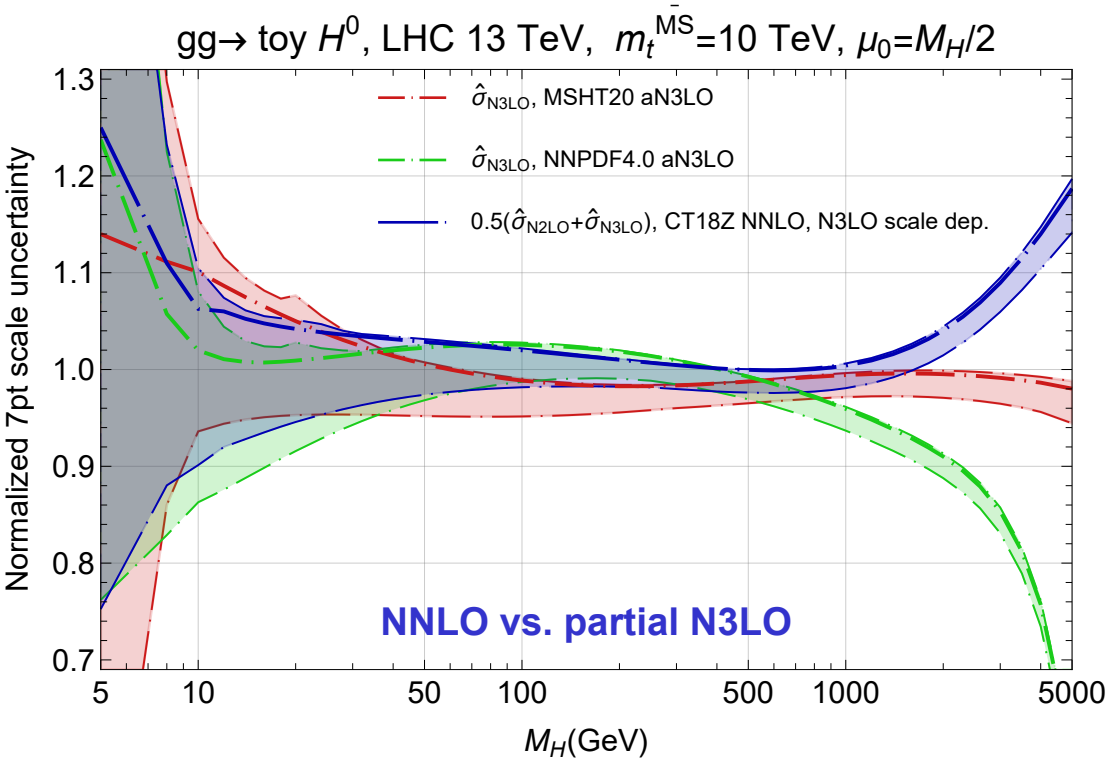

gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
$\hat{\sigma}_{\rm NNLO}$, MSHT20 NNLO
$\hat{\sigma}_{\rm NNLO}$, NNPDF4.0 NNLO
NNLO
Normalized 7pt scale uncertainty
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000
M_H(GeV)

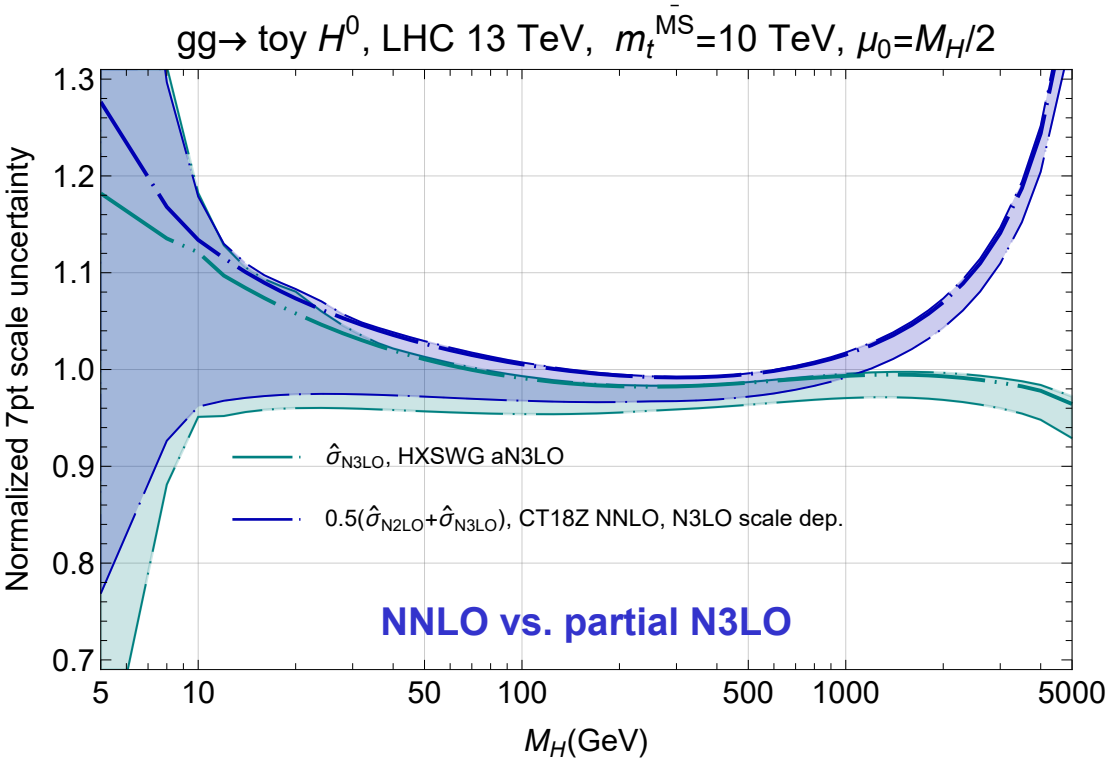

gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, μ_0=M_H/2
$\hat{\sigma}_{\rm N3LO}$, MSHT20 aN3LO
$\hat{\sigma}_{\rm N3LO}$, NNPDF4.0 aN3LO
partial N3LO
Normalized 7pt scale uncertainty
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000
M_H(GeV)

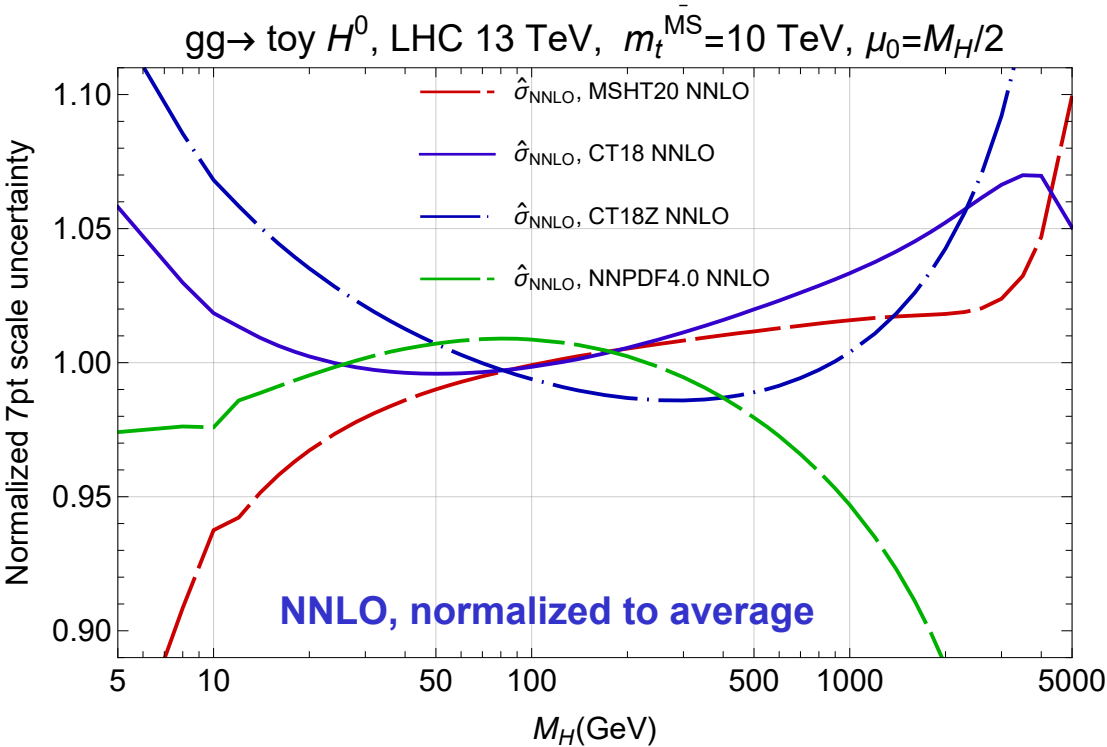

gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
$\hat{\sigma}_{\rm NNLO}$, MSHT20 NNLO
$\hat{\sigma}_{\rm NNLO}$, NNPDF4.0 NNLO
$\hat{\sigma}_{\rm N3LO}$, MSHT20 aN3LO
$\hat{\sigma}_{\rm N3LO}$, NNPDF4.0 aN3LO
NNLO vs. partial N3LO
Normalized 7pt scale uncertainty
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000
M_H(GeV)

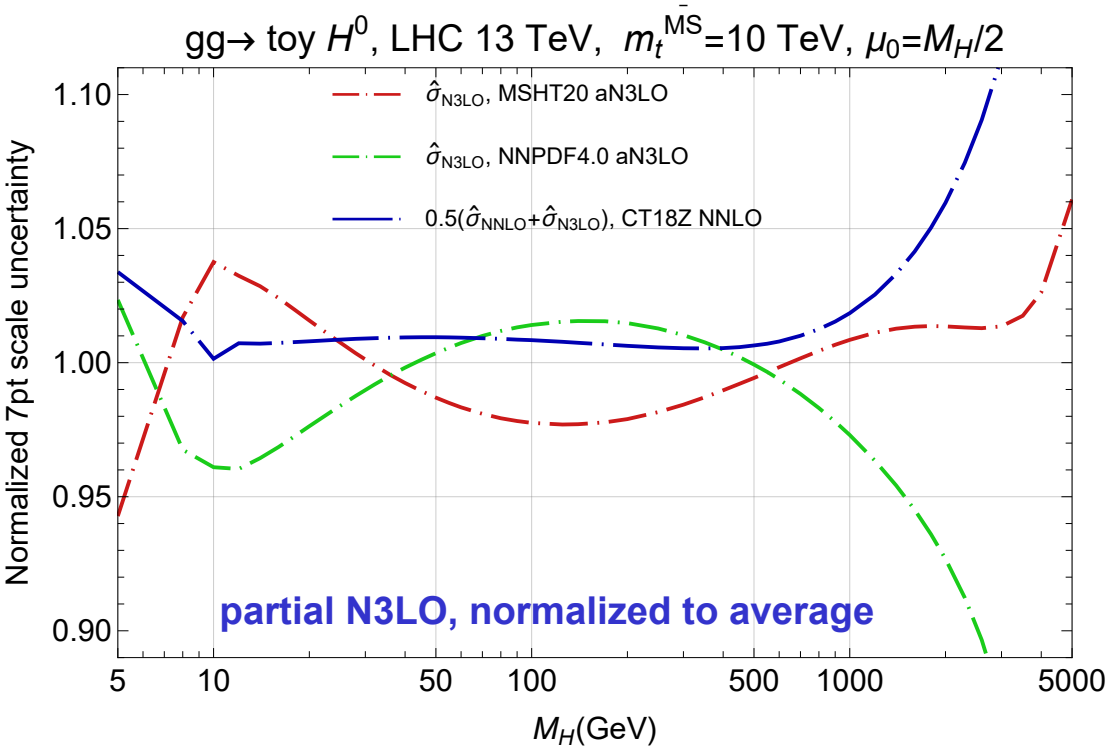

gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, μ_0=M_H/2
$\hat{\sigma}_{\rm NNLO}$, CT18 NNLO
$\hat{\sigma}_{\rm NNLO}$, CT18Z NNLO
NNLO
Normalized 7pt scale uncertainty
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000
M_H(GeV)


gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
$\hat{\sigma}_{\rm N3LO}$, MSHT20 aN3LO
$\hat{\sigma}_{\rm N3LO}$, NNPDF4.0 aN3LO
$\hat{\sigma}_{\rm NNLO}$, $\hat{\sigma}_{\rm N3LO}$, CT18 NNLO
$\hat{\sigma}_{\rm NNLO}$, $\hat{\sigma}_{\rm N3LO}$,CT18Z NNLO
NNLO vs. partial N3LO
Normalized 7pt scale uncertainty
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000
M_H(GeV)


gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
$\hat{\sigma}_{\rm N3LO}$, MSHT20 aN3LO
$\hat{\sigma}_{\rm N3LO}$, NNPDF4.0 aN3LO
$0.5(\hat{\sigma}_{\rm N2LO}+\hat{\sigma}_{\rm N3LO})$, CT18Z NNLO, N3LO scale dep.
NNLO vs. partial N3LO
Normalized 7pt scale uncertainty
M_H(GeV)
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000


gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
Normalized 7pt scale uncertainty
1.3
1.2
1.1
1.0
0.9
0.8
0.7
5
10
50
100
500
1000
5000
M_H(GeV)
$\hat{\sigma}_{\rm N3LO}$, HXSWG aN3LO
$0.5(\hat{\sigma}_{\rm N2LO}+\hat{\sigma}_{\rm N3LO})$, CT18Z NNLO, N3LO scale dep.
NNLO vs. partial N3LO


gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
$\hat{\sigma}_{\rm NNLO}$, MSHT20 NNLO
$\hat{\sigma}_{\rm NNLO}$, CT18 NNLO
$\hat{\sigma}_{\rm NNLO}$, CT18Z NNLO
$\hat{\sigma}_{\rm NNLO}$, NNPDF4.0 NNLO
NNLO, normalized to average
Normalized 7pt scale uncertainty
1.10
1.05
1.00
0.95
0.90
5
10
50
100
500
1000
5000
M_H(GeV)


gg→ toy H^0, LHC 13 TeV, $m_t^{\overline{\rm MS}}$=10 TeV, $\mu_0=M_H/2$
$\hat{\sigma}_{\rm N3LO}$, MSHT20 aN3LO
$\hat{\sigma}_{\rm N3LO}$, NNPDF4.0 aN3LO
$0.5(\hat{\sigma}_{\rm NNLO}+\hat{\sigma}_{\rm N3LO})$, CT18Z NNLO
partial N3LO, normalized to average
Normalized 7pt scale uncertainty
1.10
1.05
1.00
0.95
0.90
5
10
50
100
500
1000
5000
M_H(GeV)