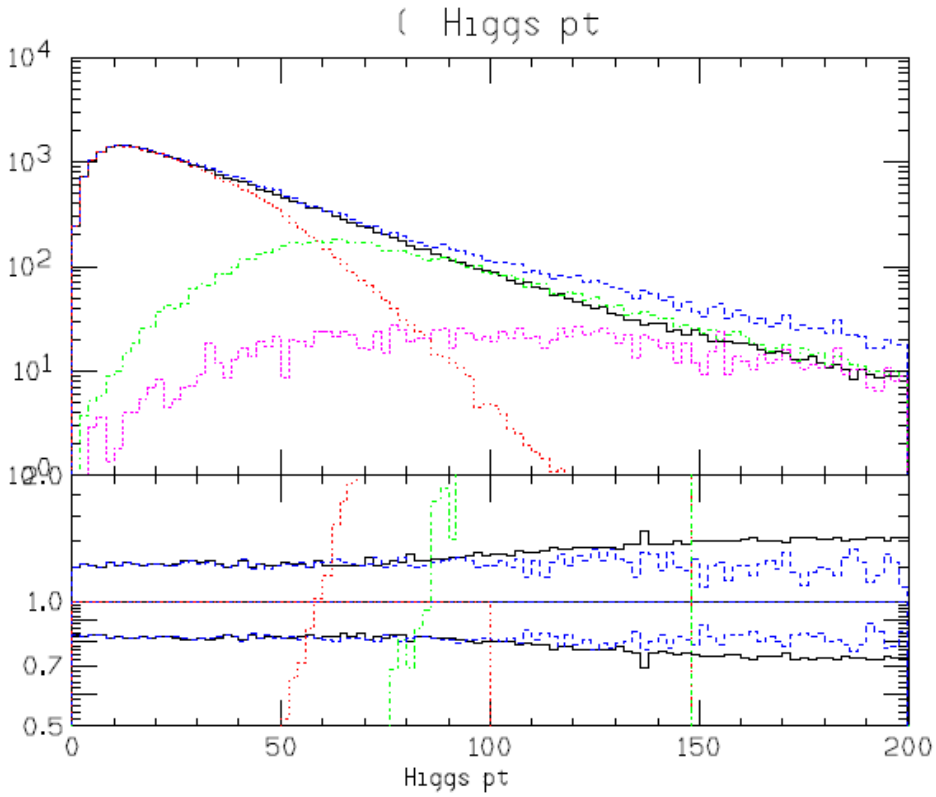
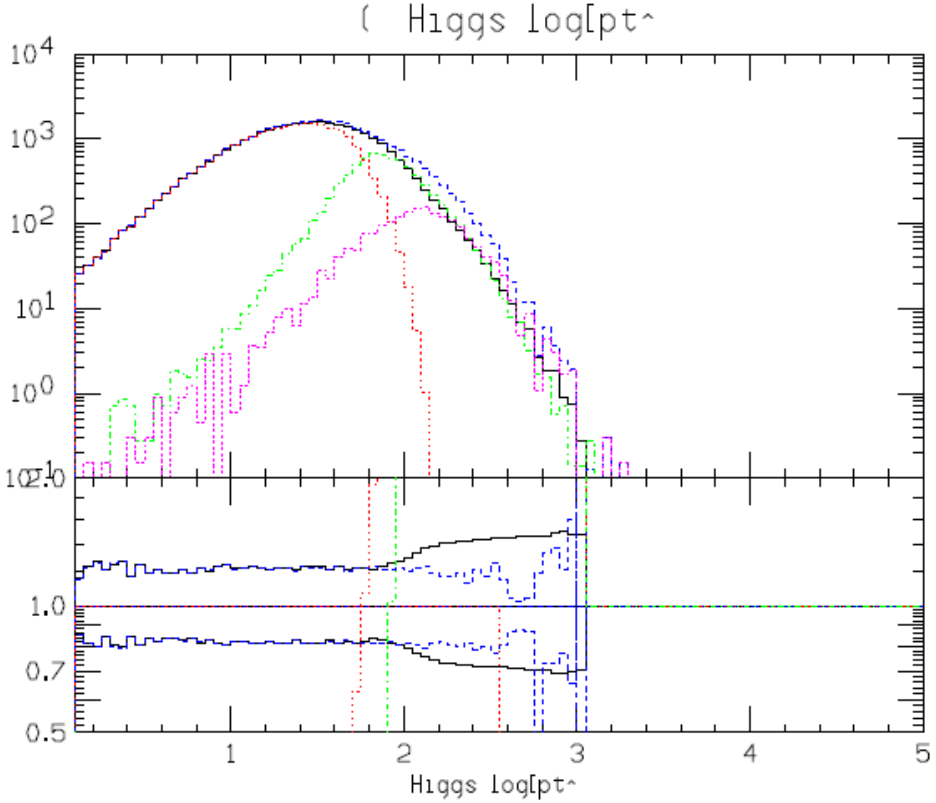
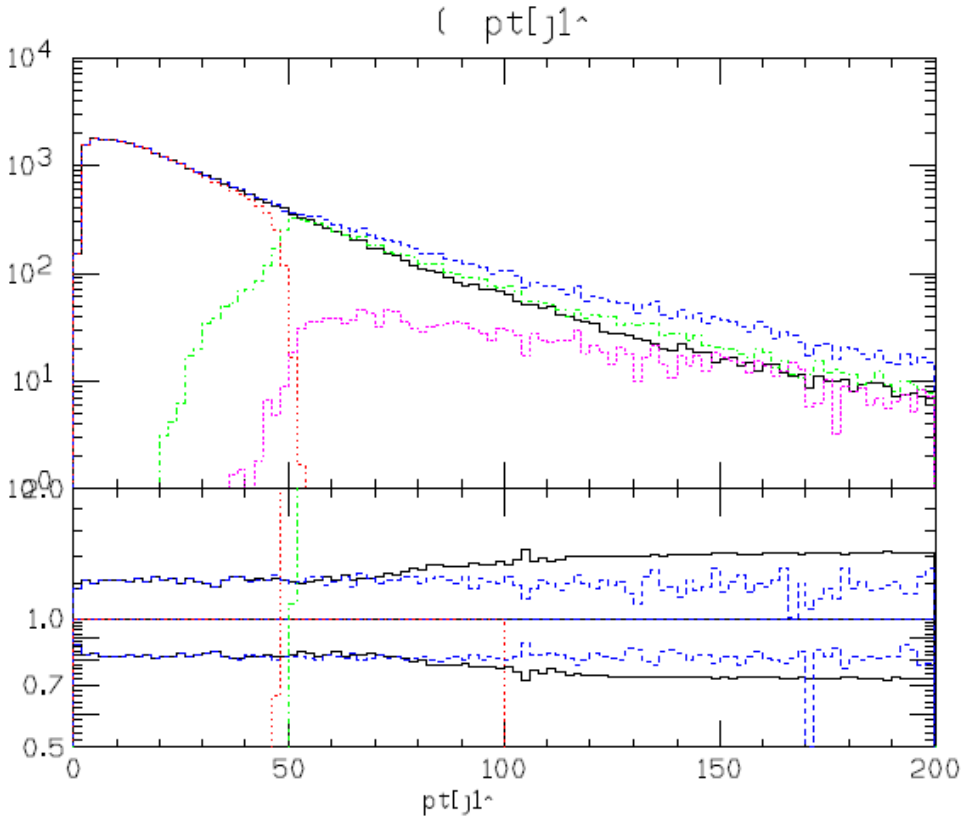
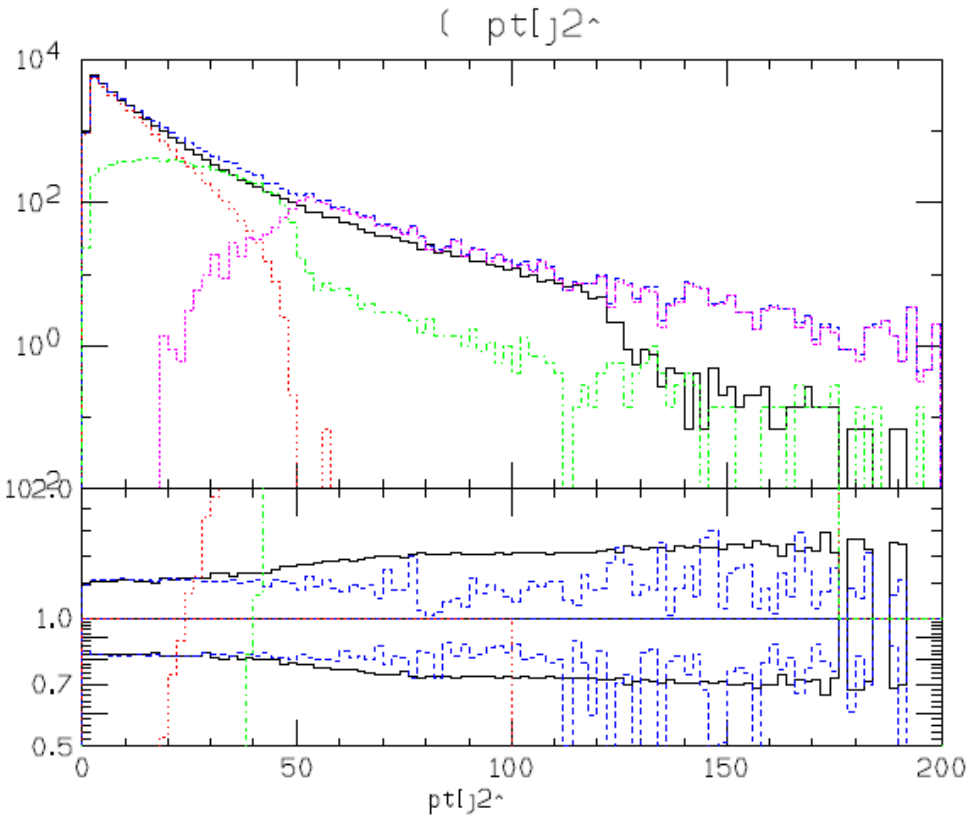
$(gg \to) H + 0, 1, 2$


Higgs pt
10^4
10^3
10^2
10^1
10^0
1.0
0.7
0.5
0
50
100
150
200
Higgs pt

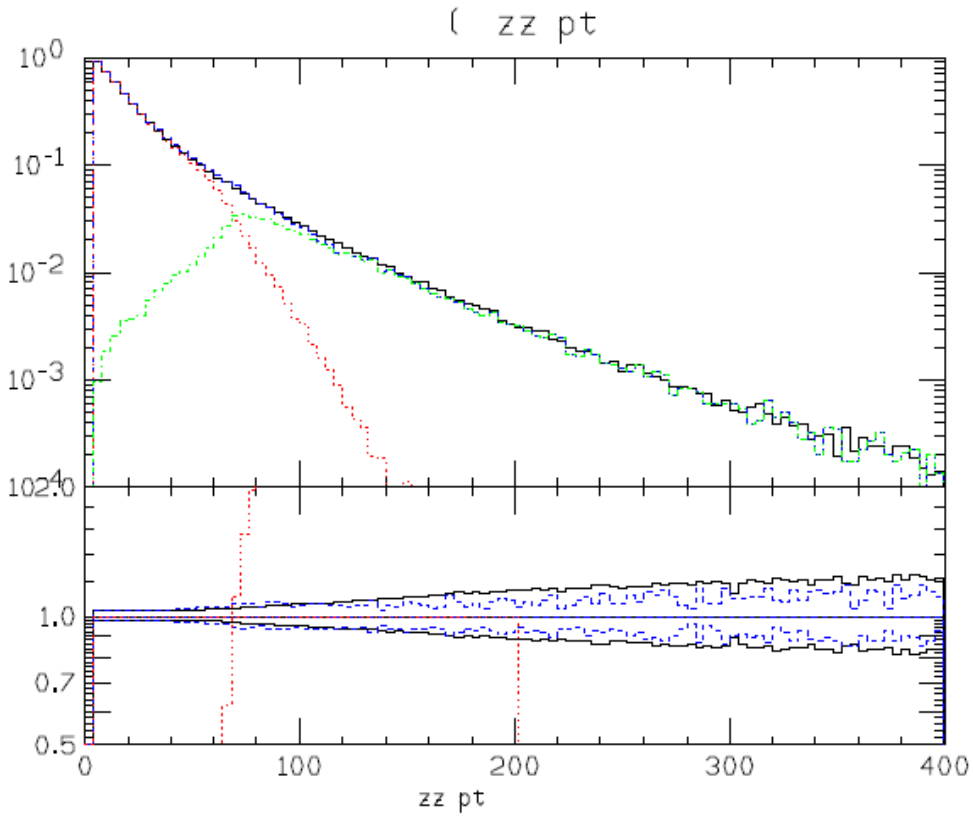

Higgs log[pt^
10^4
10^3
10^2
10^1
10^0
1.0
0.7
0.5
1
2
3
4
5
Higgs log[pt^

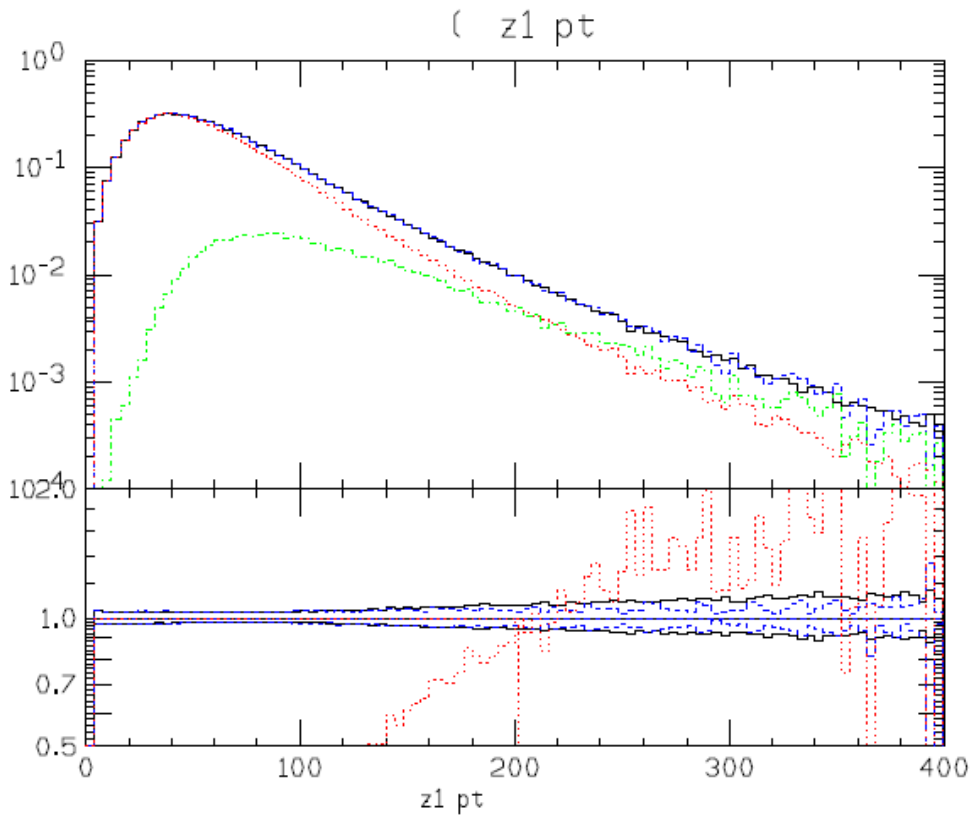
$(gg \to) H + 0, 1, 2$


(pt[j1^
10^4
10^3
10^2
10^1
10^0
2.0
1.0
0.7
0.5
0
50
100
150
200
pt[j1^

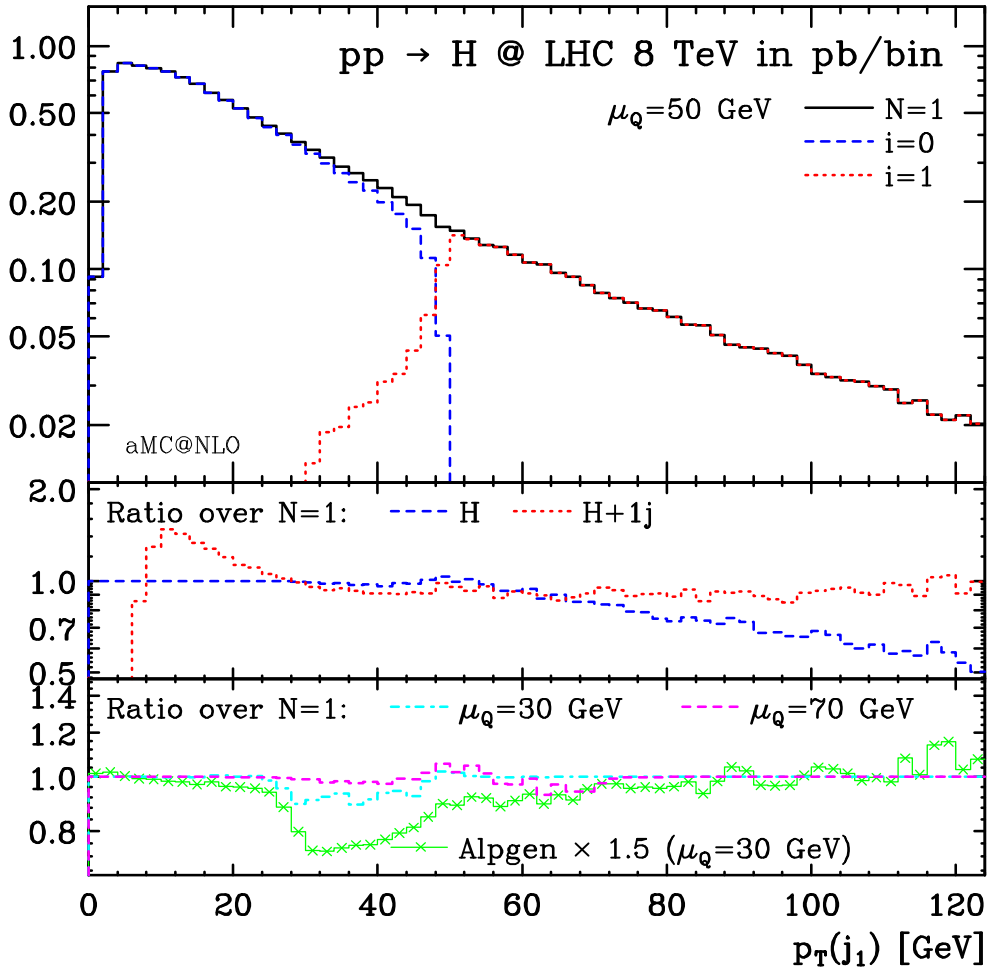

(pt[j2^
10^4
10^2
10^0
10^{-2}
2.0
1.0
0.7
0.5
0
50
100
150
200
pt[j2^

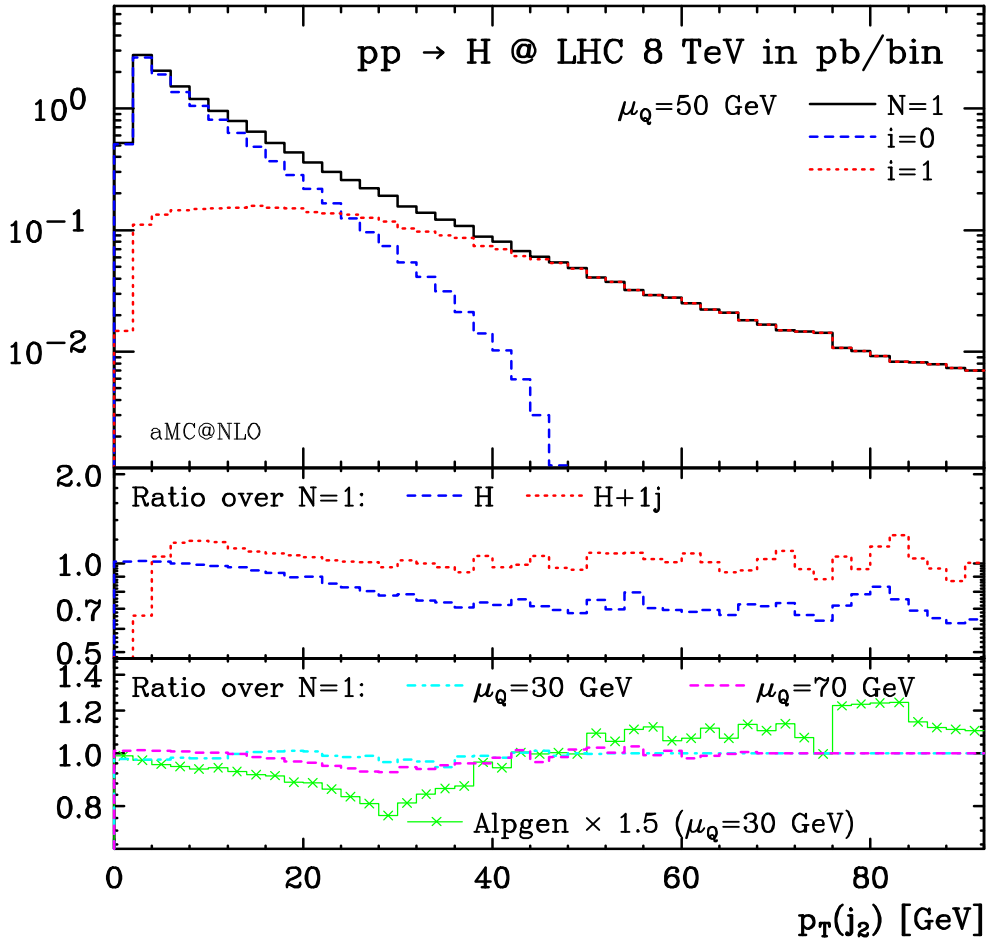
$ZZ + 0, 1$


(zz pt
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
1.0
0.7
0.5
0
100
200
300
400
zz pt


(z1 pt
10^0
10^{-1}
10^{-2}
10^{-3}
10^{-4}
1.0
0.7
0.5
0
100
200
300
400
z1 pt

$(gg \to) H + 0, 1$


pp → H @ LHC 8 TeV in pb/bin
μ_Q=50 GeV
N=1
i=0
i=1
aMC@NLO
Ratio over N=1:
H
H+1j
Ratio over N=1:
μ_Q=30 GeV
μ_Q=70 GeV
Alpgen × 1.5 (μ_Q=30 GeV)
$p_T(j_1)$ [GeV]


pp → H @ LHC 8 TeV in pb/bin
μ_Q=50 GeV
N=1
i=0
i=1
aMC@NLO
Ratio over N=1:
H
H+1j
Ratio over N=1:
μ_Q=30 GeV
μ_Q=70 GeV
Alpgen × 1.5 (μ_Q=30 GeV)
$p_T(j_2)$ [GeV]

Merged samples (0-, 1-, and 2-parton) with $\mu_Q = 30$, 50, and 70 GeV

Anti-k_T jets, $R = 0.4$, only those with $|\eta| \leq 5$ considered

- cuts$_1$:
  at least two jets, both with $p_T \geq 25$ GeV

- cuts$_2$:
  $M_{j_1 j_2} \geq 400$ GeV && $|\Delta y_{j_1 j_2}| \geq 2.8$ && cuts$_1$

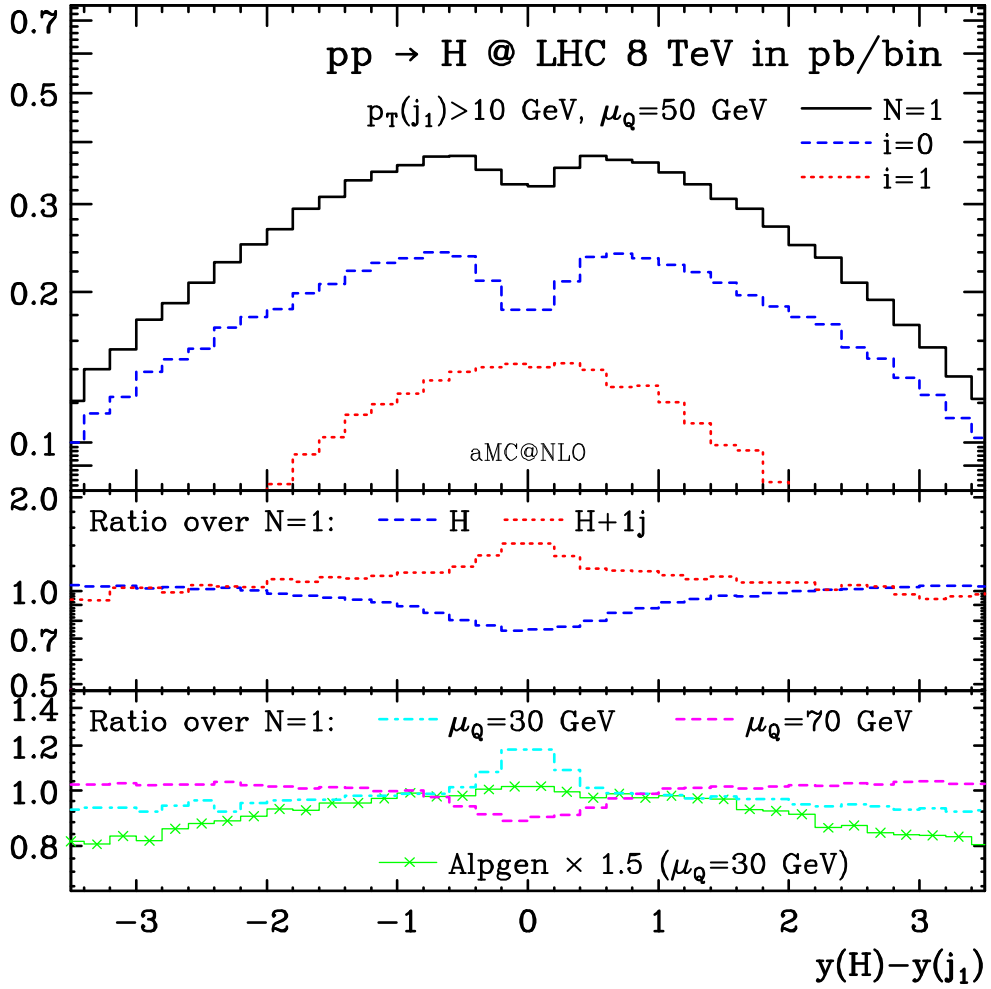
Rates (pb)

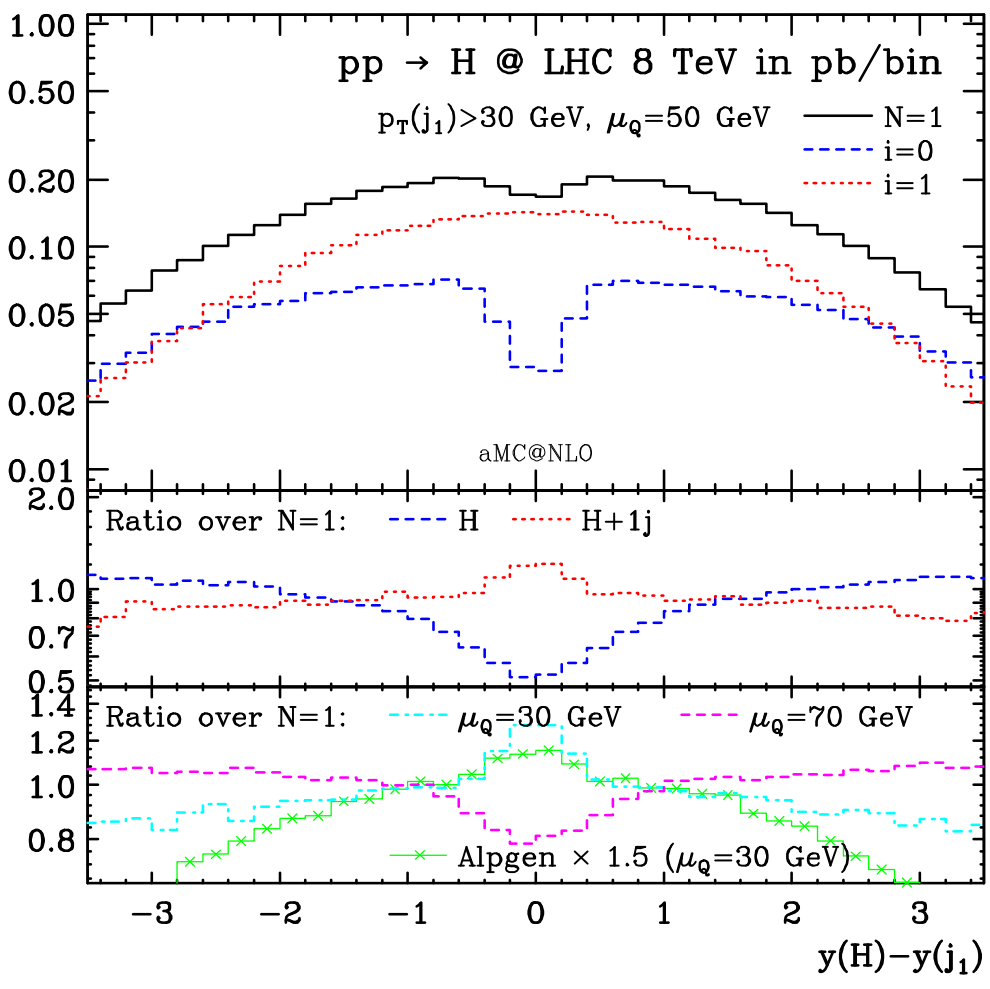
(and fractions of 0-, 1- and 2-parton sample contributions)

	$\mu_Q = 30$	$\mu_Q = 50$	$\mu_Q = 70$
no cuts	13.91 (58.8+29+12.2)%	14.09 (77.5+18.7+3.8)%	14.08 (86.4+12+1.6)%
cuts$_1$	1.65 (0.2+14.6+85.2)%	1.62 (16.1+51+32.9)%	1.58 (36+49.8+14.2)%
cuts$_2$	0.125 (0.2+7.5+92.3)%	0.170 (21.8+43.5+34.7)%	0.207 (43.6+43.4+13)%

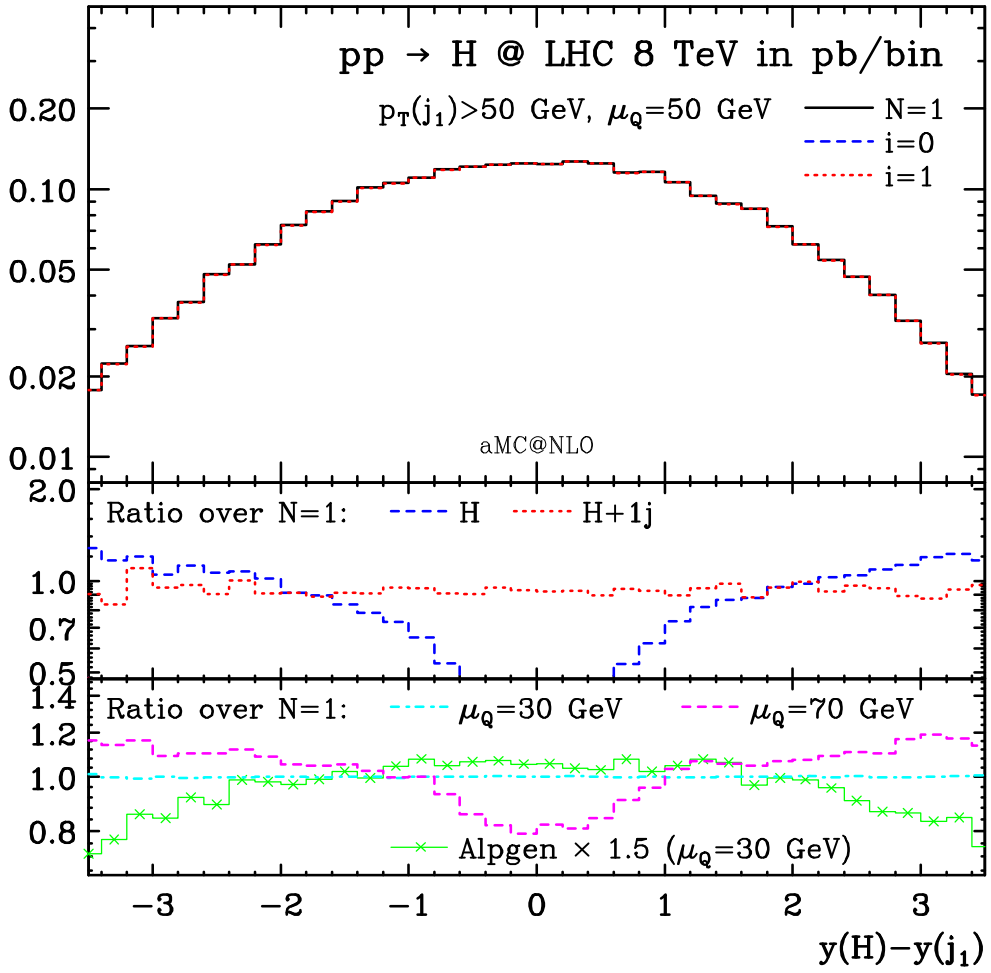
ME $\longleftarrow\quad\longrightarrow$ MC

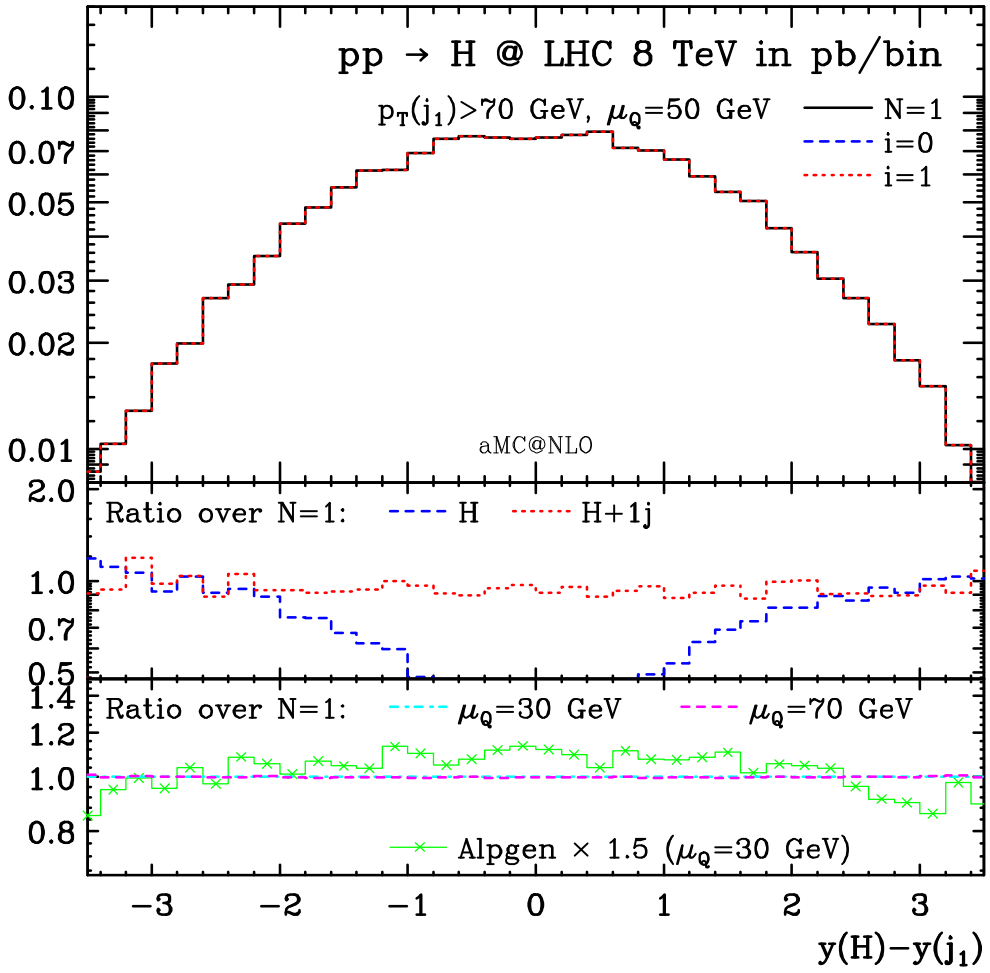
$(gg \to) H + 0, 1$


pp → H @ LHC 8 TeV in pb/bin
$p_T(j_1)$>10 GeV, μ_Q=50 GeV
N=1
i=0
i=1
aMC@NLO
Ratio over N=1:
H
H+1j
Ratio over N=1:
μ_Q=30 GeV
μ_Q=70 GeV
Alpgen × 1.5 (μ_Q=30 GeV)
y(H)−y(j1)


pp → H @ LHC 8 TeV in pb/bin
$p_T(j_1)$>30 GeV, μ_Q=50 GeV
N=1
i=0
i=1
aMC@NLO
Ratio over N=1:
H
H+1j
Ratio over N=1:
μ_Q=30 GeV
μ_Q=70 GeV
Alpgen × 1.5 (μ_Q=30 GeV)
y(H)−y(j1)

$(gg \to) H + 0, 1$


pp → H @ LHC 8 TeV in pb/bin
$p_T(j_1)$>50 GeV, μ_Q=50 GeV
N=1
i=0
i=1
aMC@NLO
Ratio over N=1:
H
H+1j
Ratio over N=1:
μ_Q=30 GeV
μ_Q=70 GeV
Alpgen × 1.5 (μ_Q=30 GeV)
y(H)−y(j1)


pp → H @ LHC 8 TeV in pb/bin
$p_T(j_1)$>70 GeV, μ_Q=50 GeV
N=1
i=0
i=1
aMC@NLO
Ratio over N=1:
H
H+1j
Ratio over N=1:
μ_Q=30 GeV
μ_Q=70 GeV
Alpgen × 1.5 (μ_Q=30 GeV)
y(H)−y(j1)