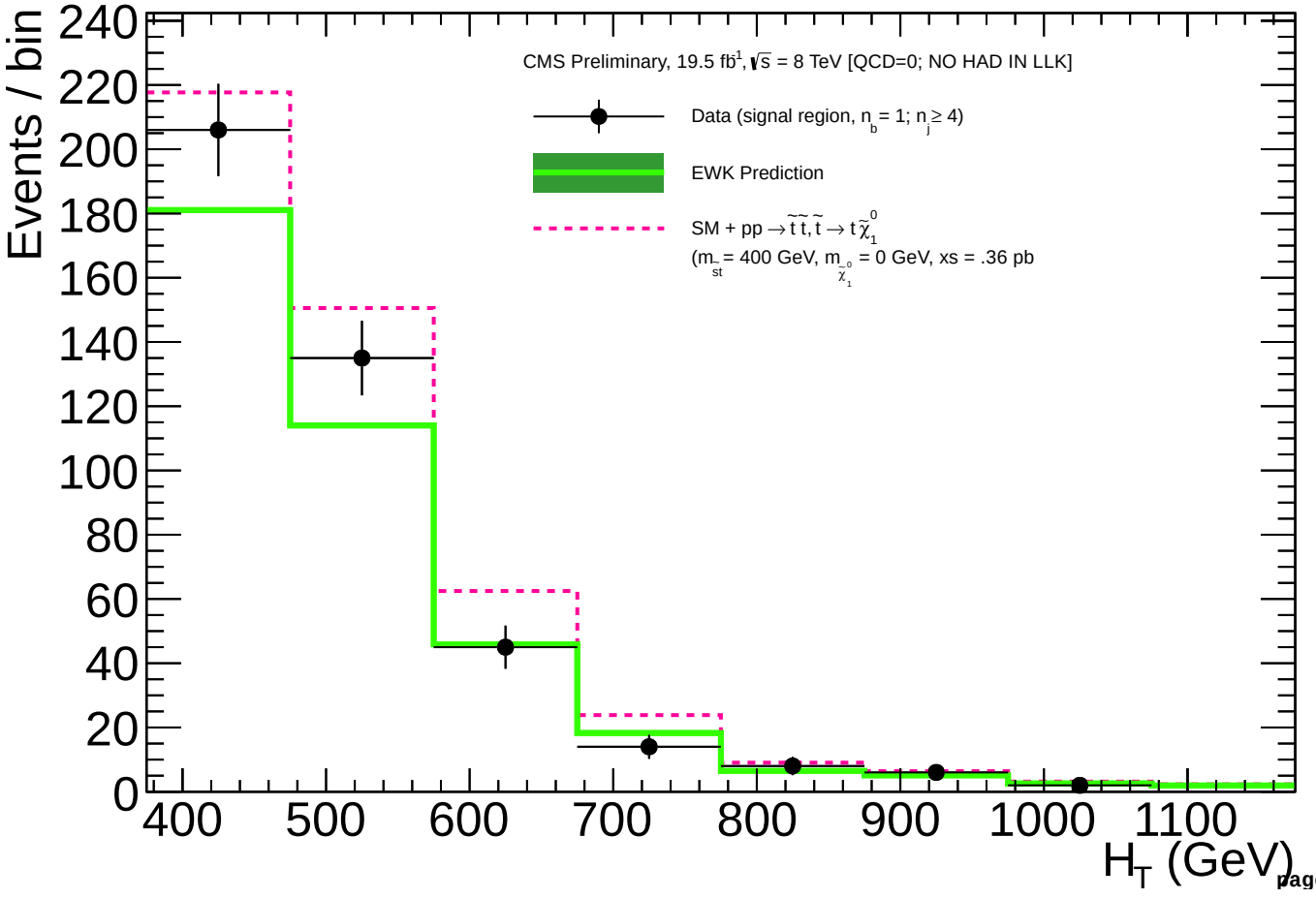
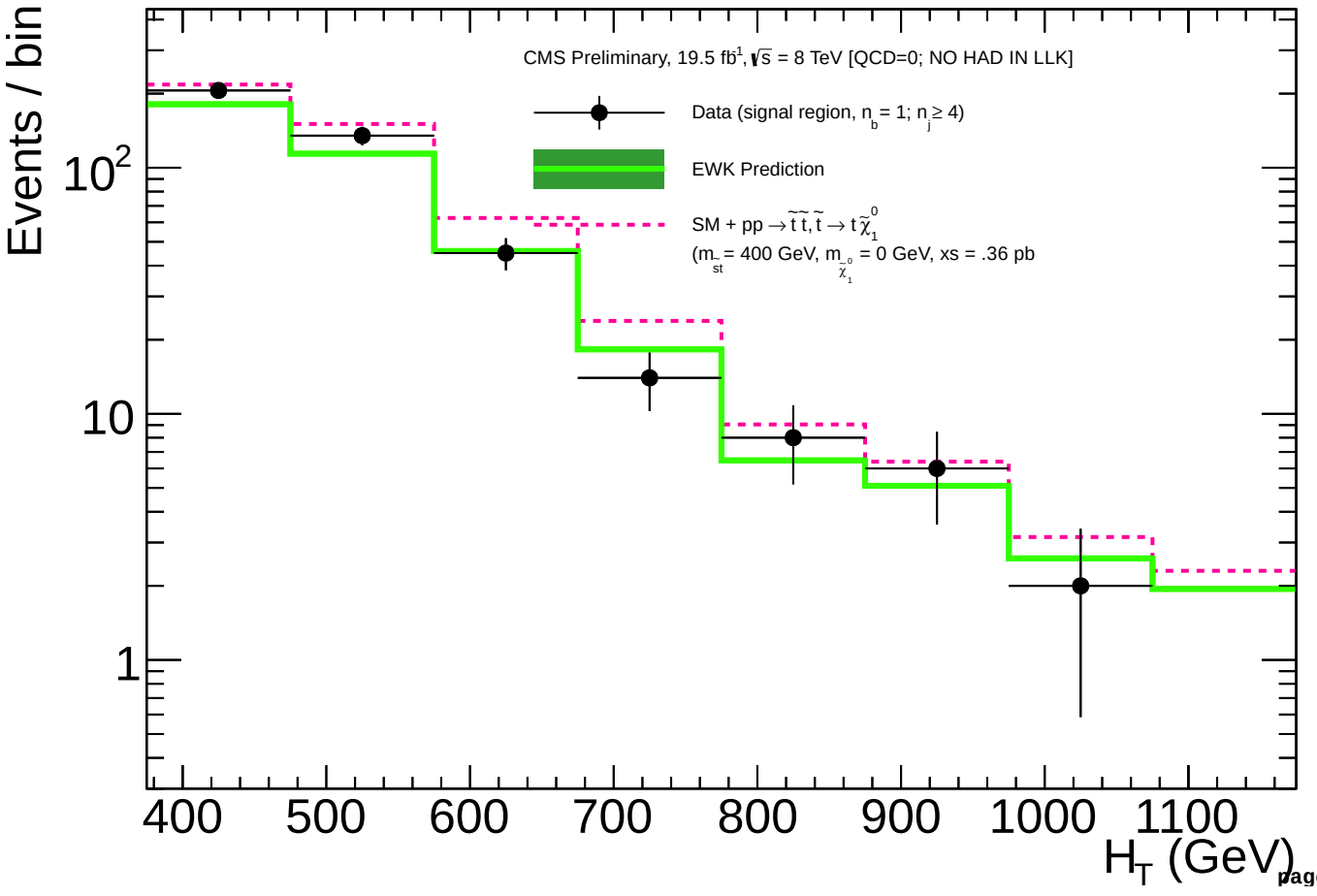
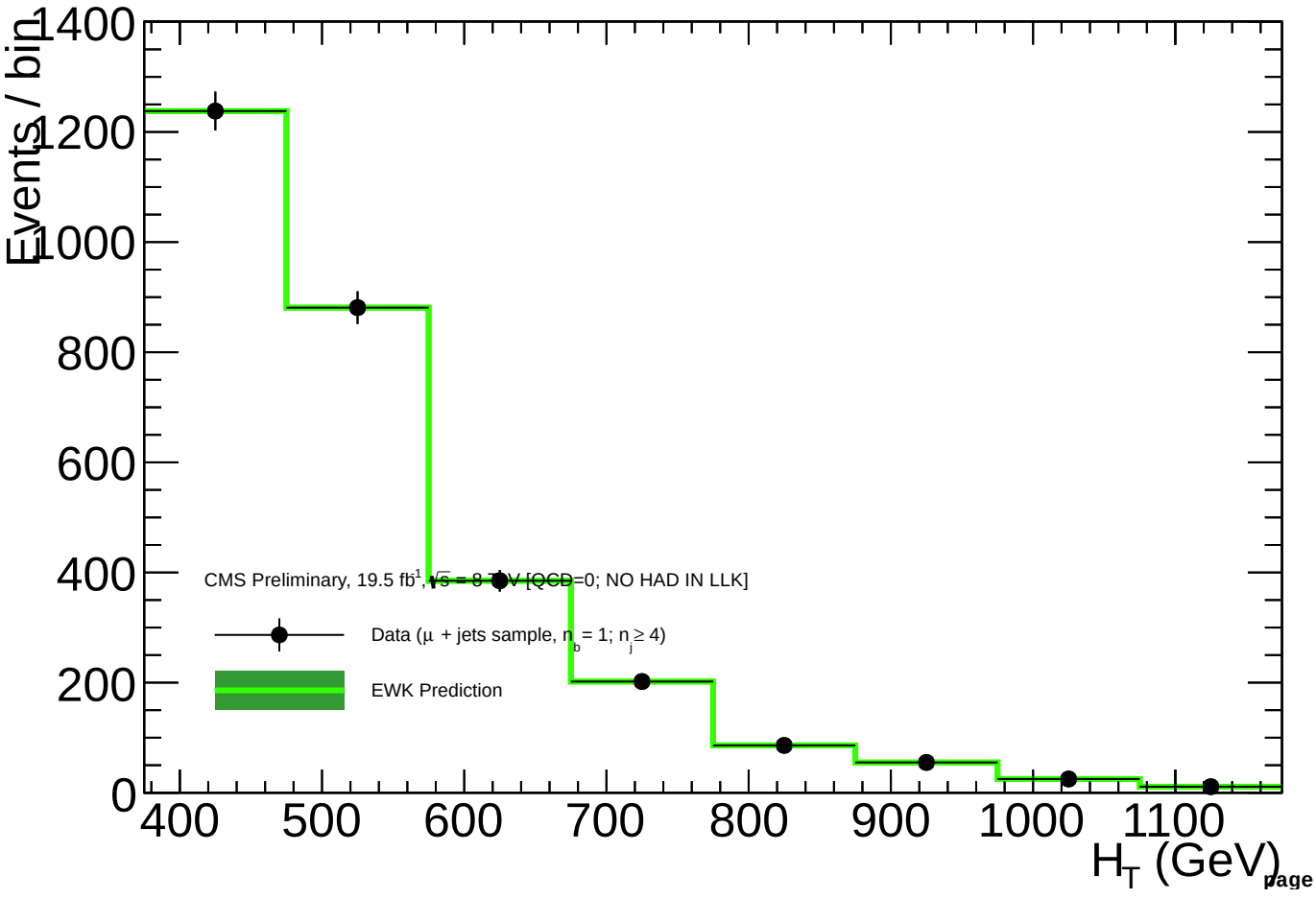
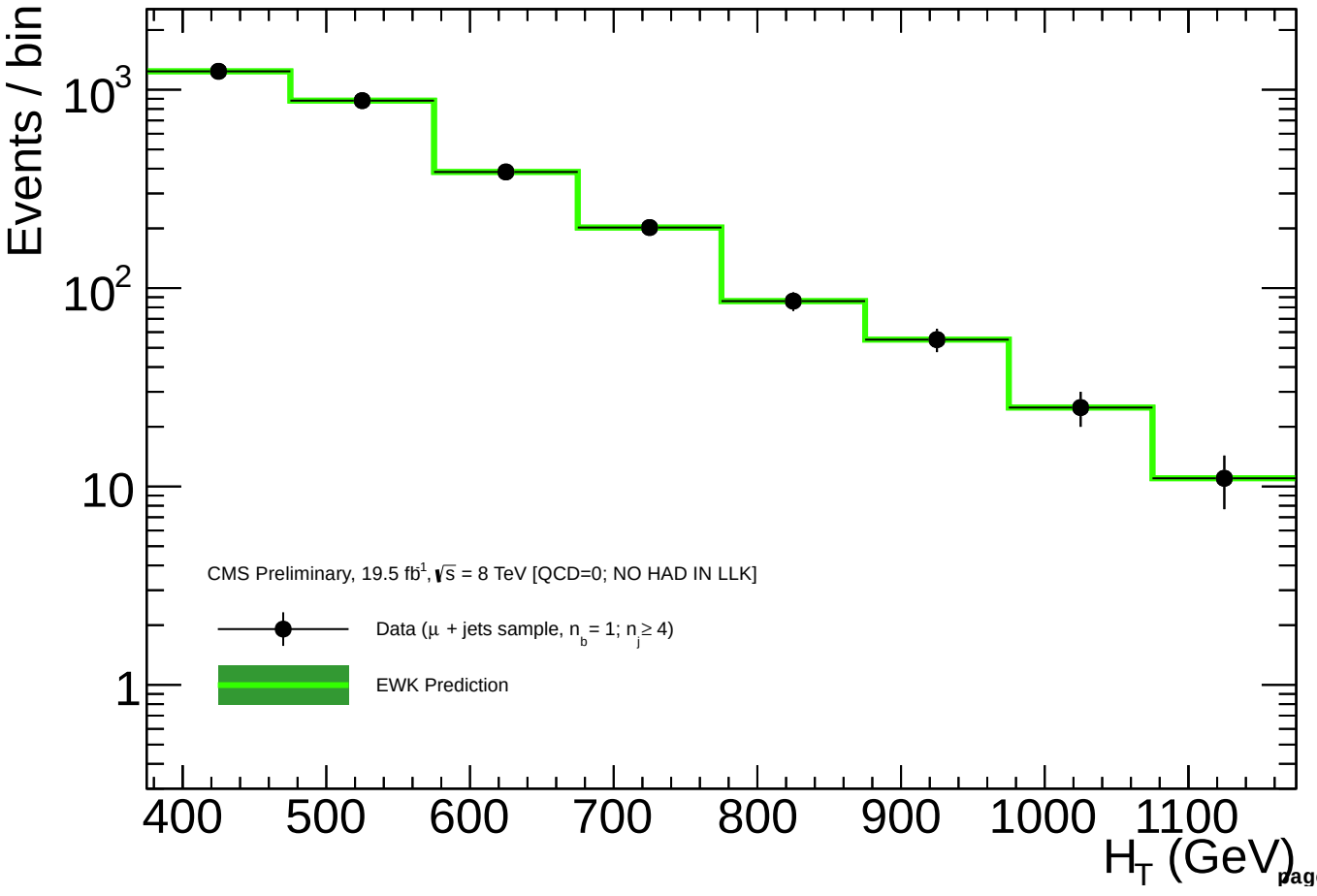
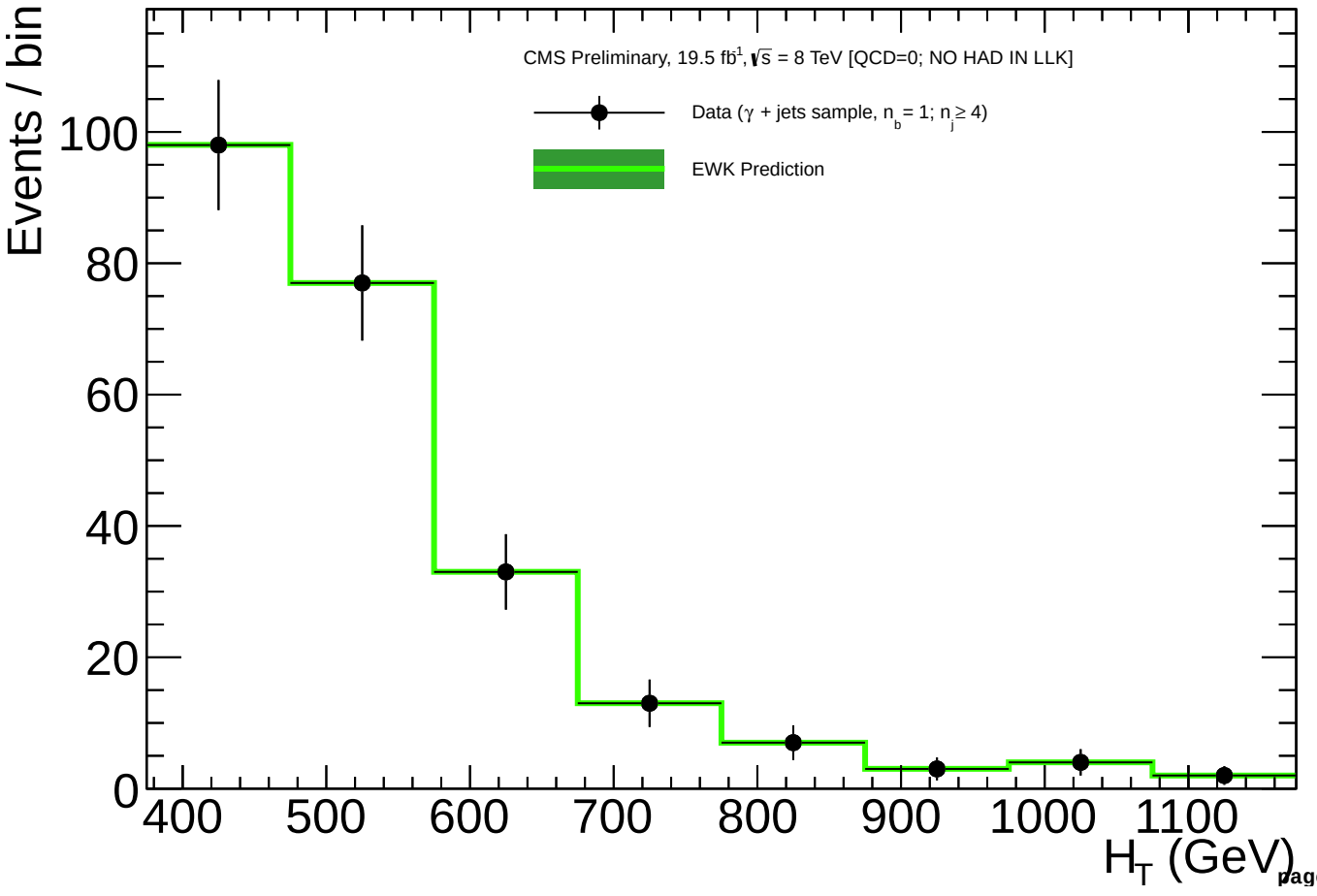
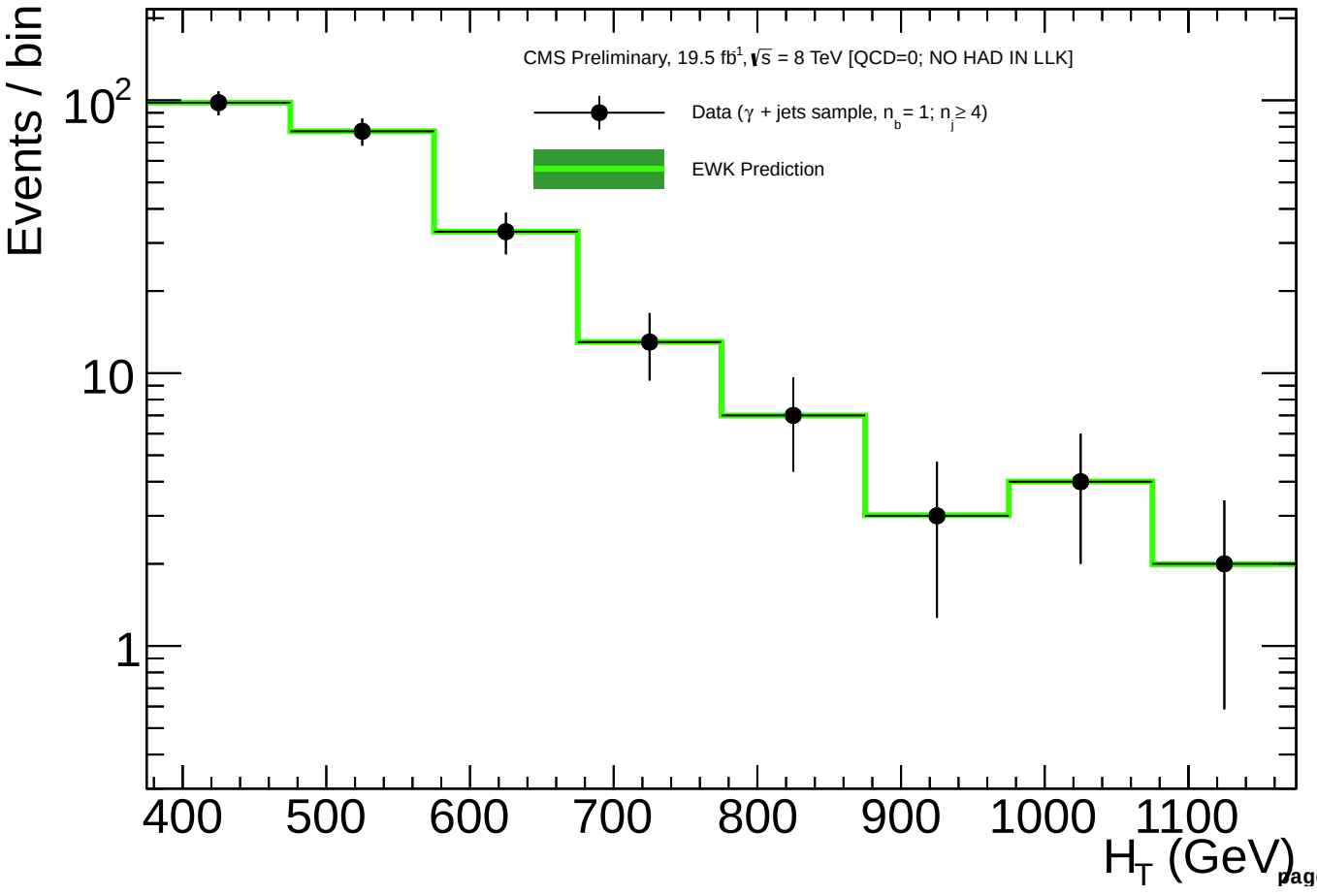

CMS Preliminary, 19.5 fb-1, √s = 8 TeV [QCD=0; NO HAD IN LLK]
Data (signal region, nb = 1; nj ≥ 4)
EWK Prediction
SM + pp → t̃t̃, t̃ → t χ̃10
(mt̃ = 400 GeV, mχ̃10 = 0 GeV, xs = .36 pb
Events / bin
HT (GeV)
0
20
40
60
80
100
120
140
160
180
200
220
240
400
500
600
700
800
900
1000
1100


CMS Preliminary, 19.5 fb-1, √s = 8 TeV [QCD=0; NO HAD IN LLK]
Data (signal region, nb = 1; nj ≥ 4)
EWK Prediction
SM + pp → t̃t̃, t̃ → t χ̃10
(mt̃ = 400 GeV, mχ̃10 = 0 GeV, xs = .36 pb
Events / bin
10²
10
1
400
500
600
700
800
900
1000
1100
HT (GeV)

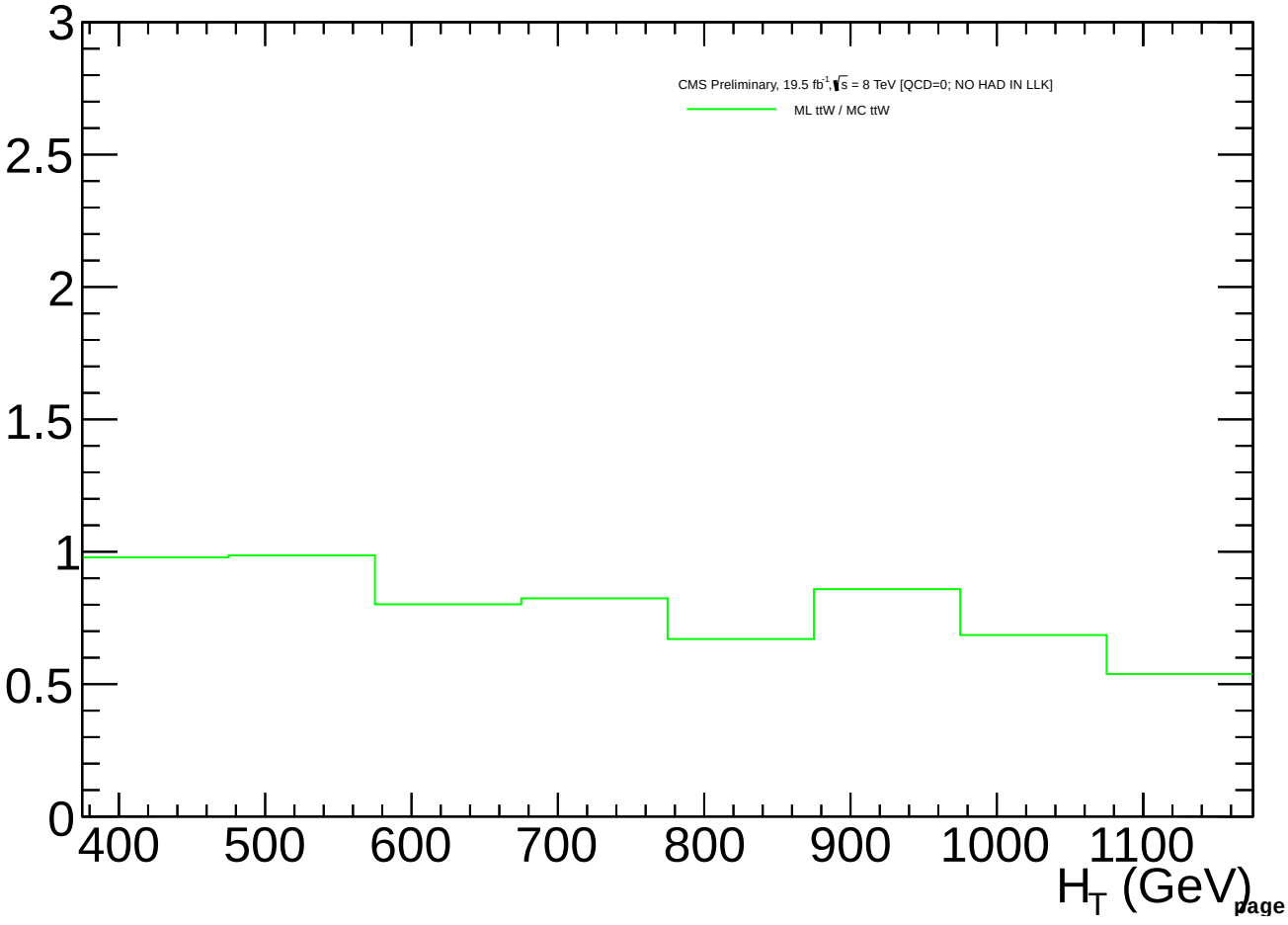

Events / bin
1400
1200
1000
800
600
400
200
0
400
500
600
700
800
900
1000
1100
H_T (GeV)
CMS Preliminary, 19.5 fb^{-1}, $\sqrt{s}$ = 8 TeV [QCD=0; NO HAD IN LLK]
Data (μ + jets sample, n_b = 1; $n_j \geq 4$)
EWK Prediction


Events / bin
10^3
10^2
10
1
CMS Preliminary, 19.5 fb^{-1}, $\sqrt{s}$ = 8 TeV [QCD=0; NO HAD IN LLK]
Data (μ + jets sample, n_b = 1; $n_j \geq 4$)
EWK Prediction
400
500
600
700
800
900
1000
1100
H_T (GeV)

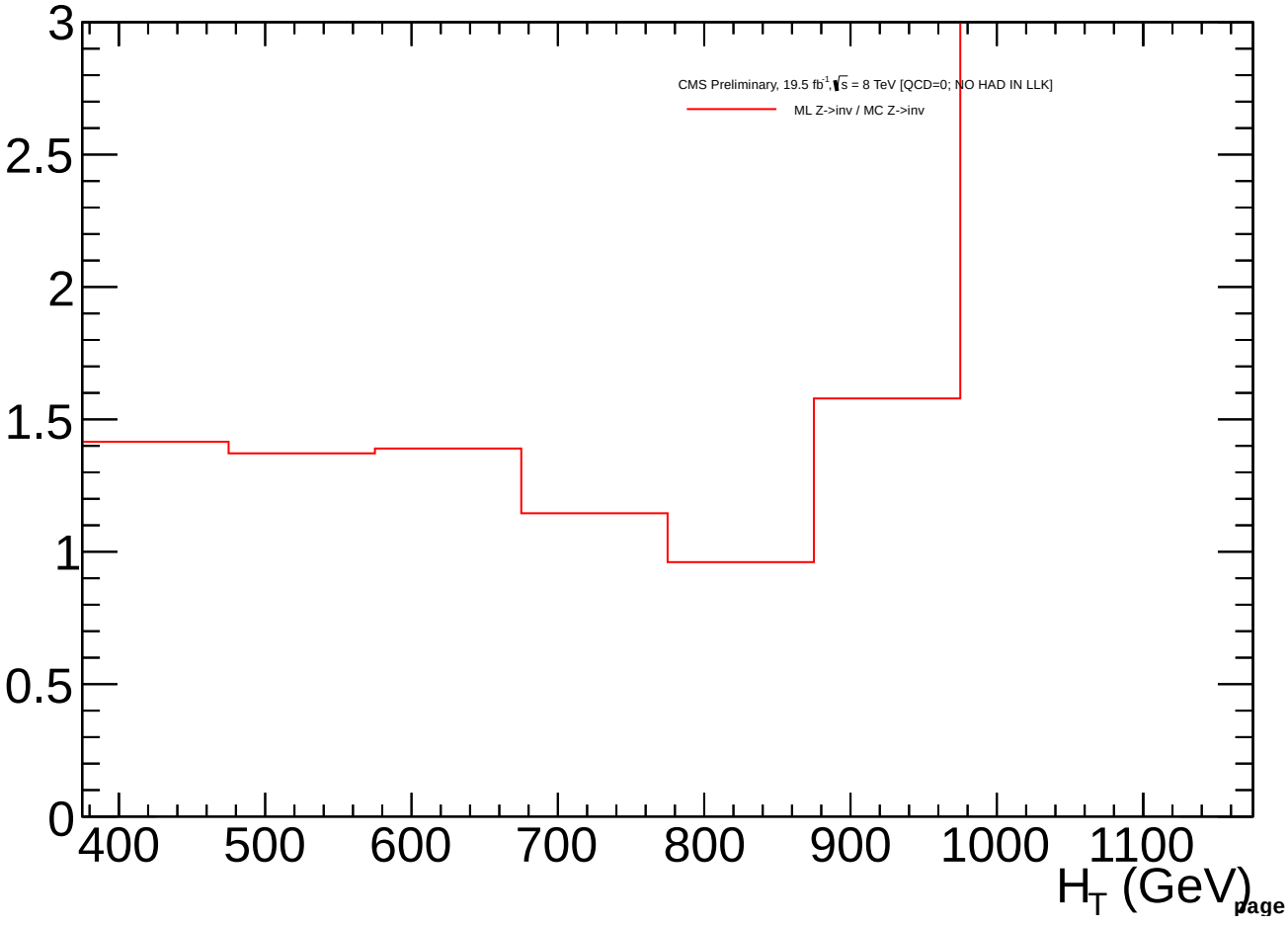

CMS Preliminary, 19.5 fb^{-1}, $\sqrt{s}$ = 8 TeV [QCD=0; NO HAD IN LLK]
Data (γ + jets sample, $n_b = 1$; $n_j \geq 4$)
EWK Prediction
Events / bin
0
20
40
60
80
100
400
500
600
700
800
900
1000
1100
H_T (GeV)


CMS Preliminary, 19.5 fb^{-1}, $\sqrt{s}$ = 8 TeV [QCD=0; NO HAD IN LLK]
Data (γ + jets sample, $n_b = 1$; $n_j \geq 4$)
EWK Prediction
Events / bin
10^2
10
1
400
500
600
700
800
900
1000
1100
H_T (GeV)

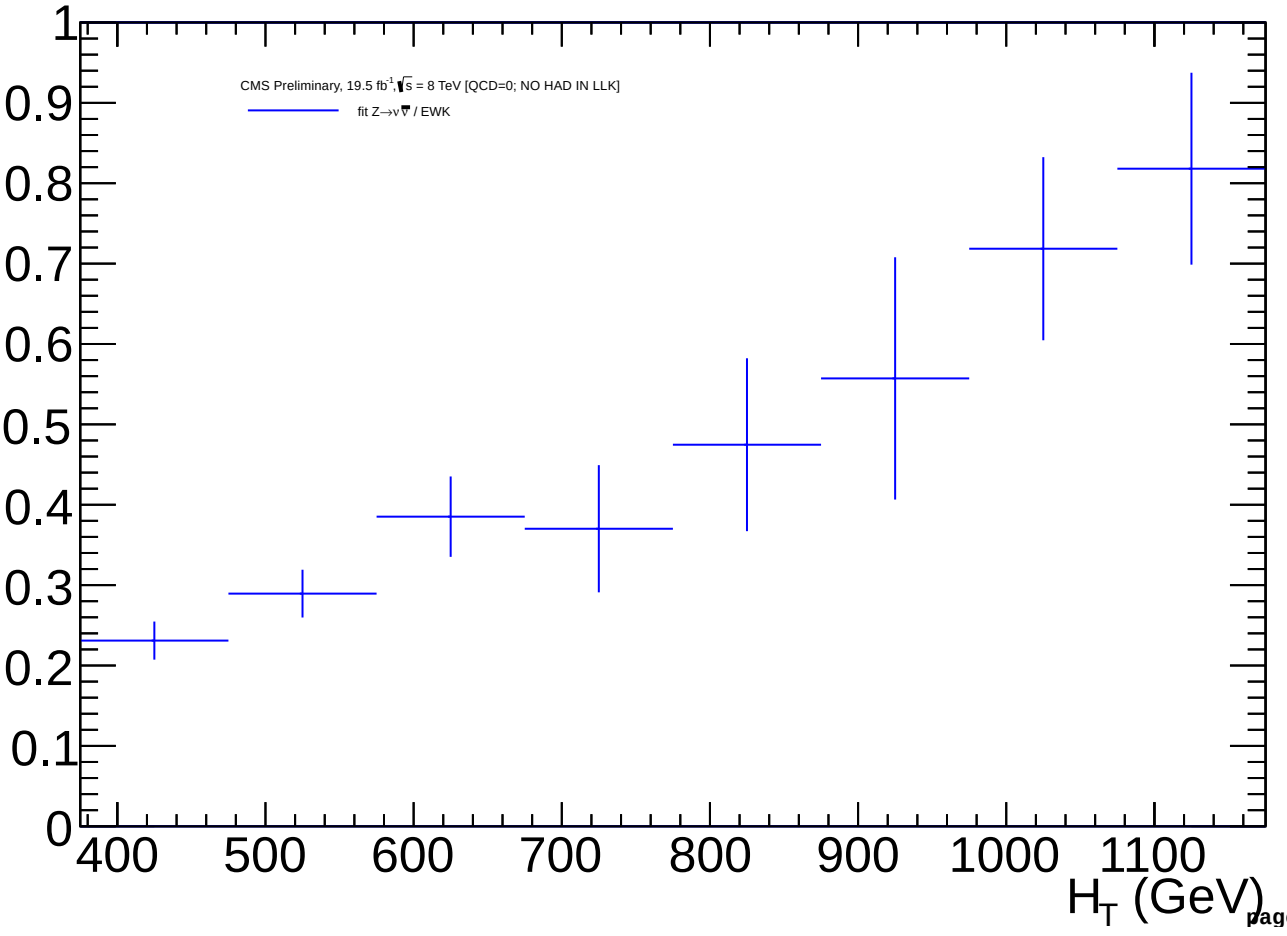
ttW scale factor (result of fit)

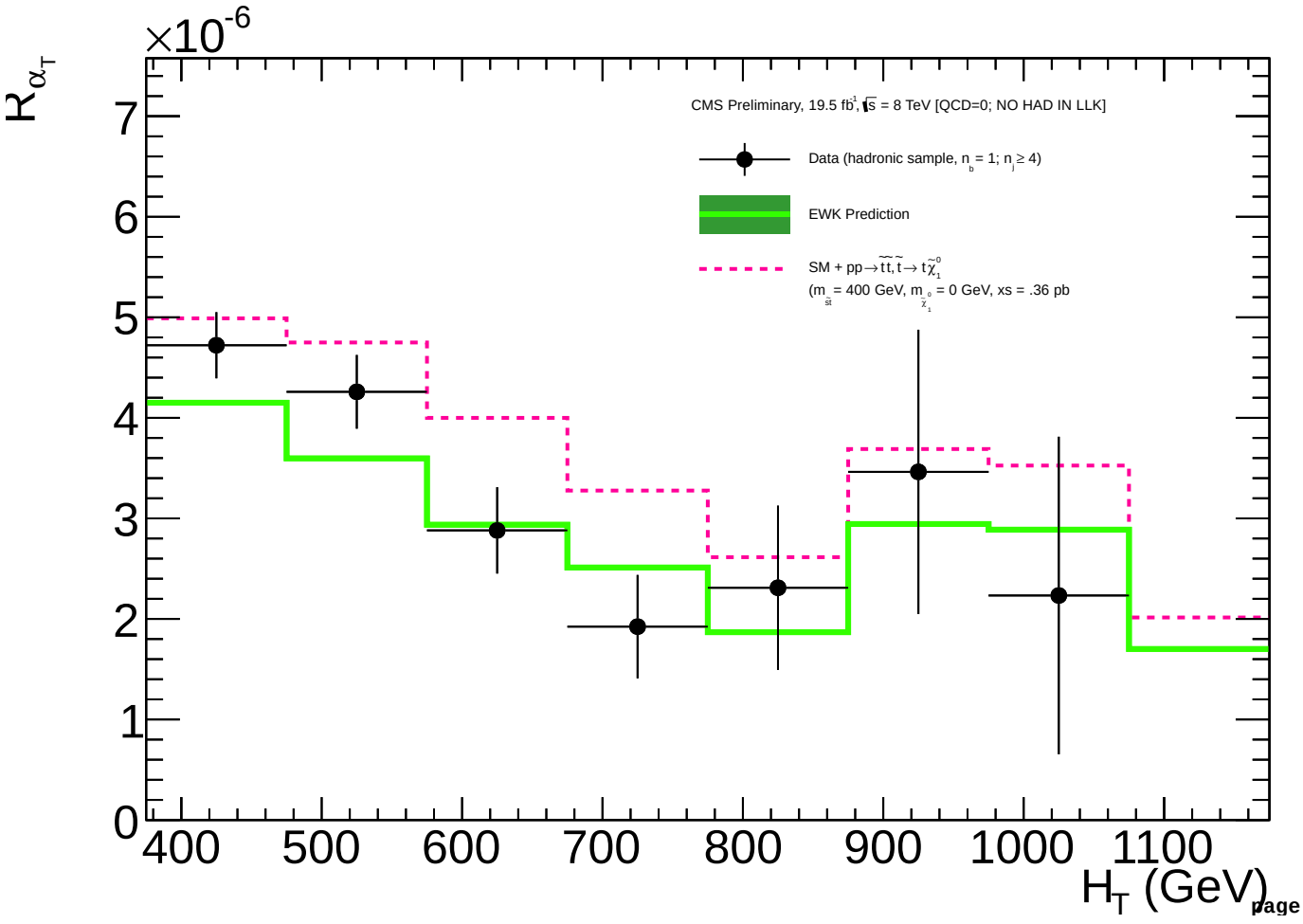


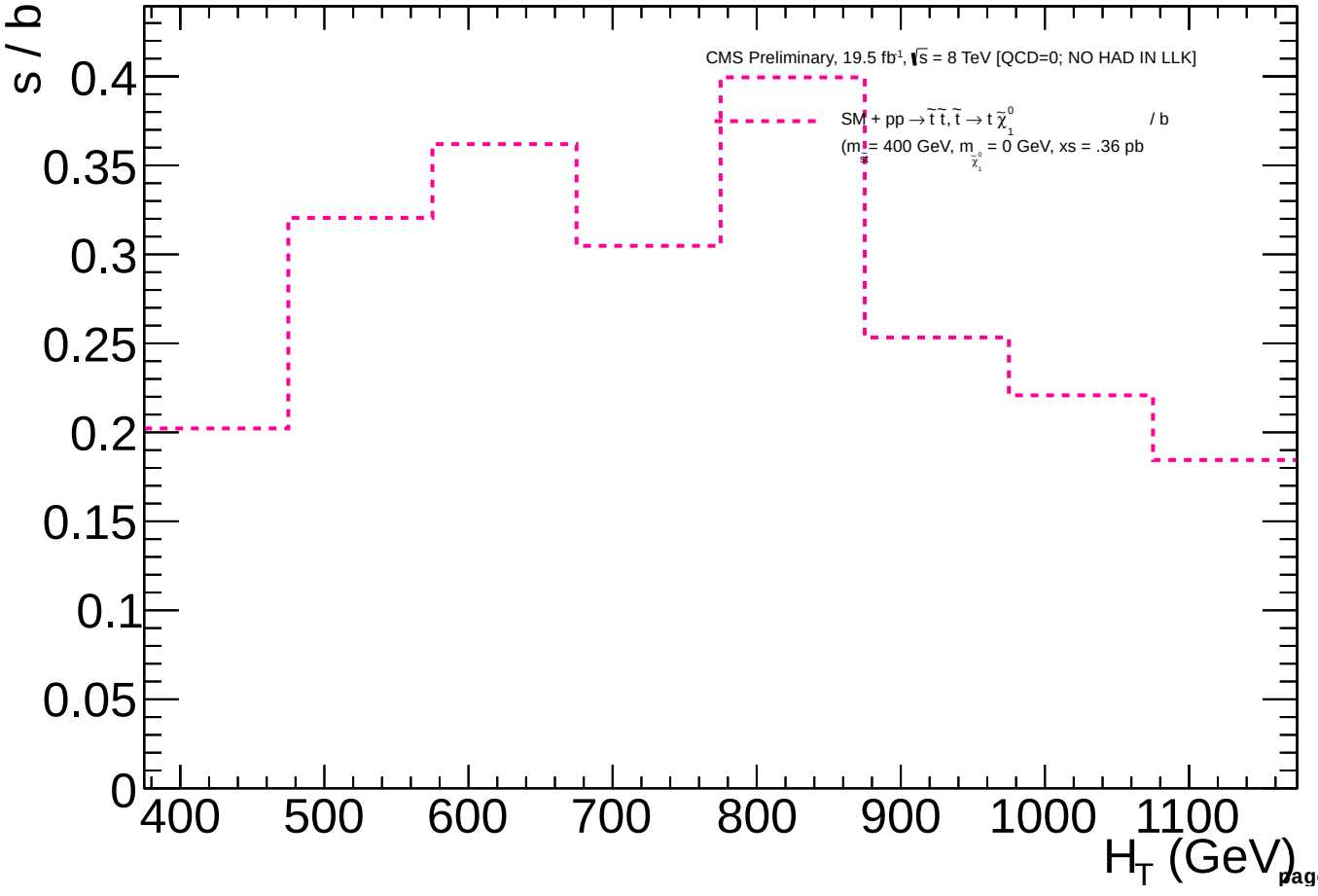
Zinv scale factor (result of fit)

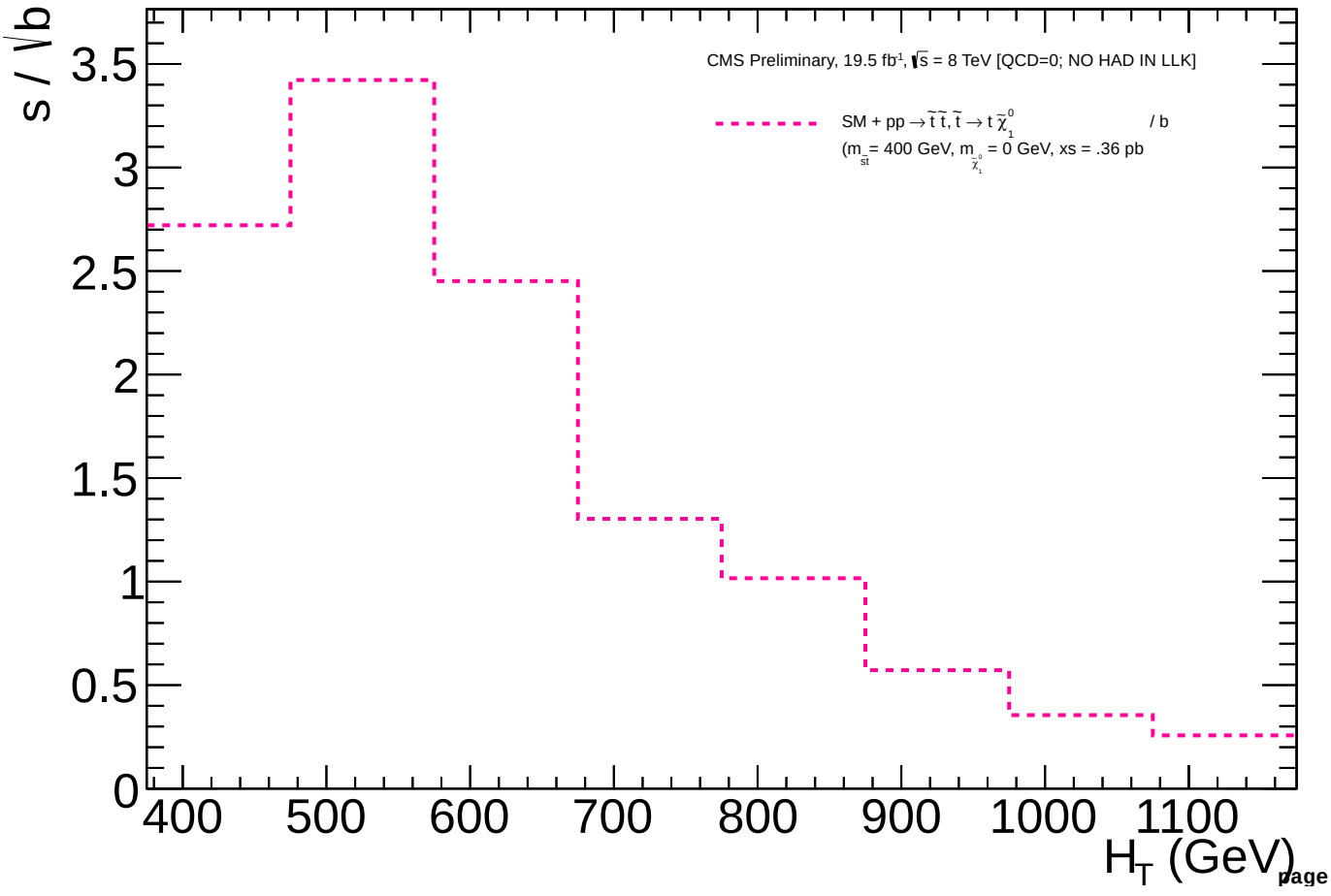


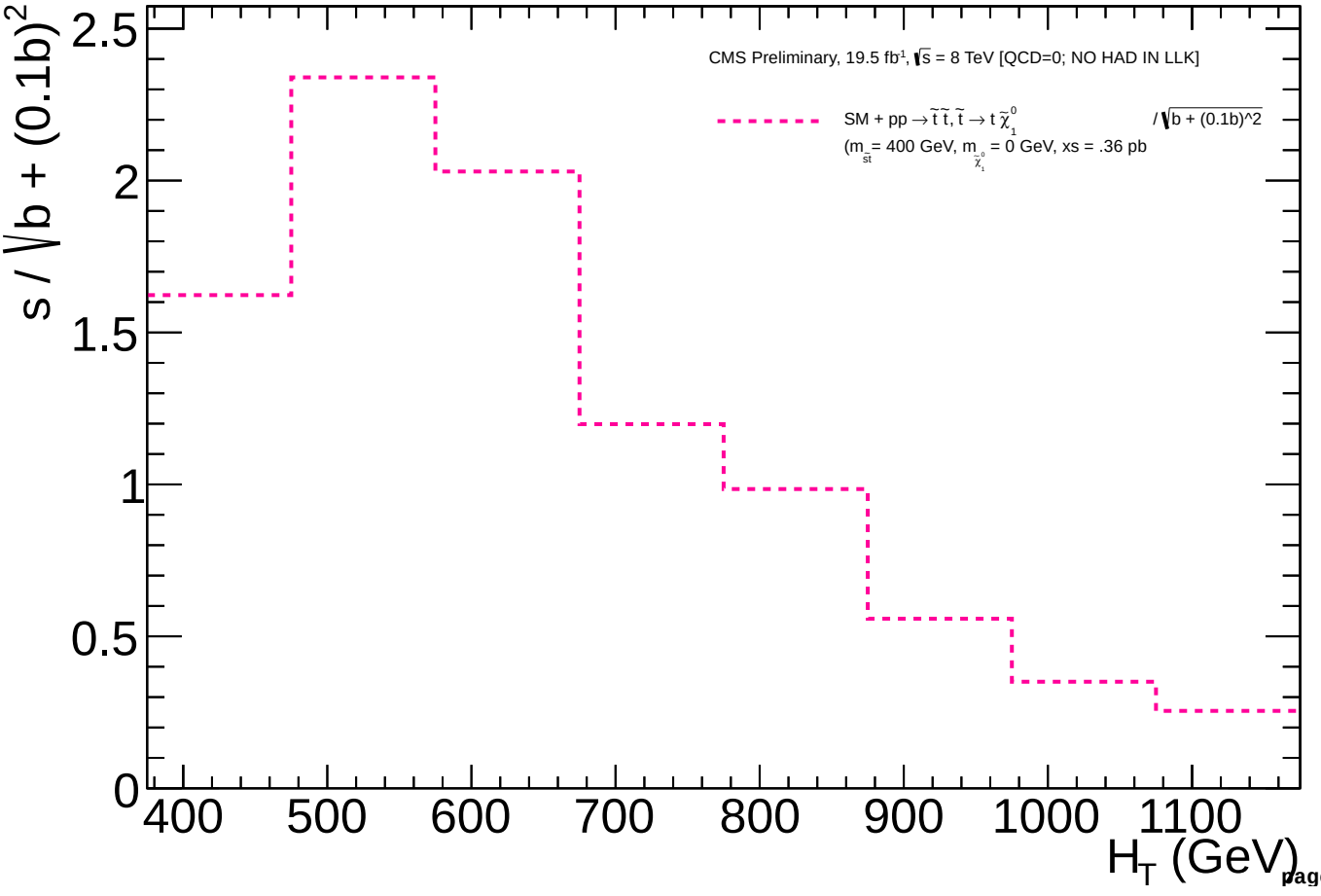
fraction of EWK background which is Zinv (result of fit)

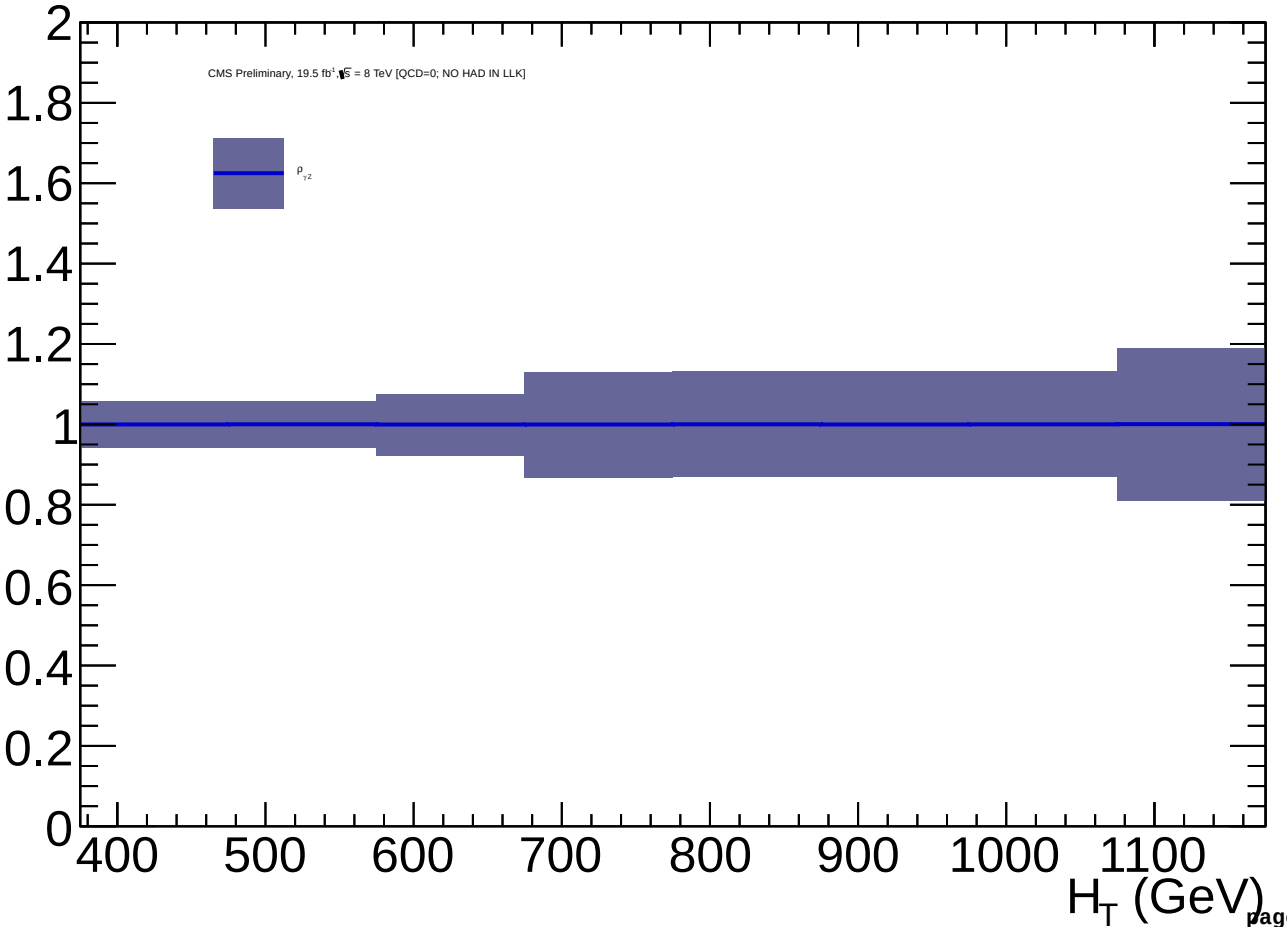


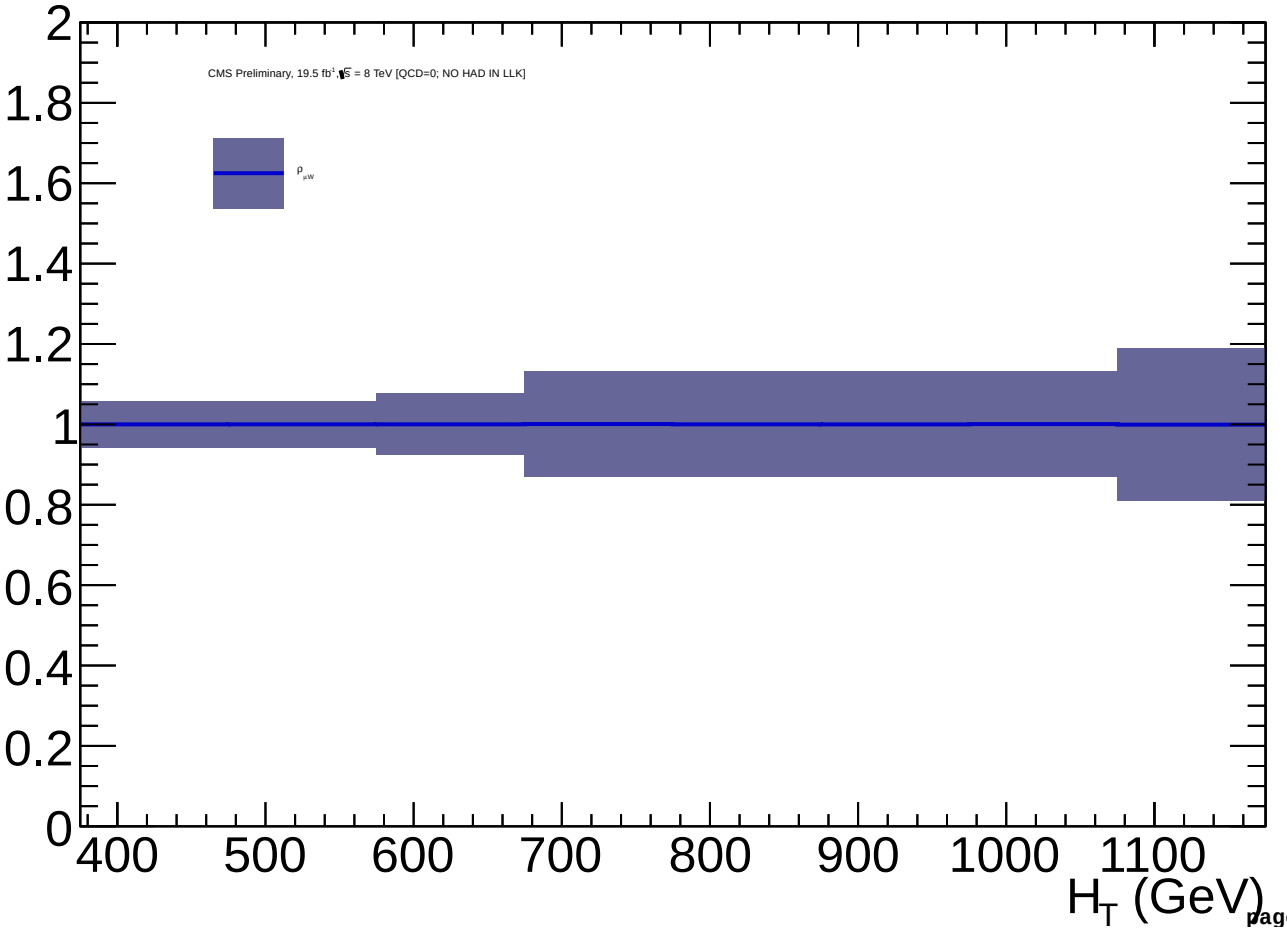

κ_{α_T}
$\times 10^{-6}$
CMS Preliminary, 19.5 fb^{-1}, $\sqrt{s}$ = 8 TeV [QCD=0; NO HAD IN LLK]
Data (hadronic sample, $n_b = 1$; $n_j \geq 4$)
EWK Prediction
SM + $pp \to \tilde{t}\tilde{t}, \tilde{t} \to t\tilde{\chi}_1^0$
($m_{\tilde{t}} = 400$ GeV, $m_{\tilde{\chi}_1^0} = 0$ GeV, xs = .36 pb
0
1
2
3
4
5
6
7
400
500
600
700
800
900
1000
1100
H_T (GeV)


CMS Preliminary, 19.5 fb-1, √s = 8 TeV [QCD=0; NO HAD IN LLK]
SM + pp → t̃t̃, t̃ → t χ̃10 / b
(ms = 400 GeV, mχ̃10 = 0 GeV, xs = .36 pb
s / b
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
400
500
600
700
800
900
1000
1100
HT (GeV)

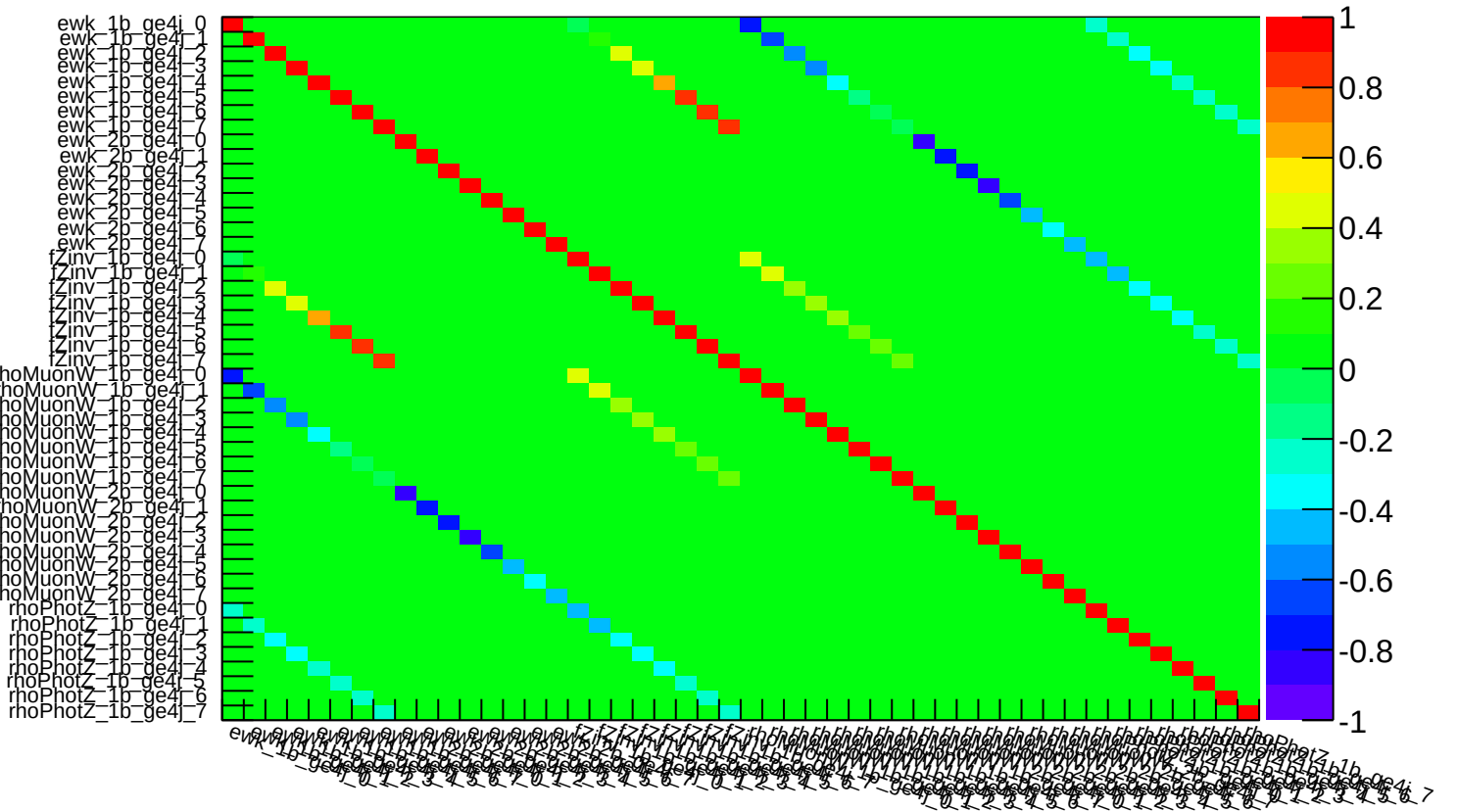

CMS Preliminary, 19.5 fb-1, √s = 8 TeV [QCD=0; NO HAD IN LLK]
SM + pp → t̃t̃, t̃ → t χ̃10
/ b
(mst̃ = 400 GeV, mχ̃10 = 0 GeV, xs = .36 pb
s / √b
HT (GeV)
0
0.5
1
1.5
2
2.5
3
3.5
400
500
600
700
800
900
1000
1100


CMS Preliminary, 19.5 fb-1, √s = 8 TeV [QCD=0; NO HAD IN LLK]
SM + pp → t̃ t̃*, t̃ → t χ̃10
(mt̃ = 400 GeV, mχ̃10 = 0 GeV, xs = .36 pb
s / √b + (0.1b)2
/ √b + (0.1b)^2
HT (GeV)
0
0.5
1
1.5
2
2.5
400
500
600
700
800
900
1000
1100


CMS Preliminary, 19.5 fb-1, √s = 8 TeV [QCD=0; NO HAD IN LLK]
ρT,Z
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
400
500
600
700
800
900
1000
1100
HT (GeV)


CMS Preliminary, 19.5 fb-1, √s = 8 TeV [QCD=0; NO HAD IN LLK]
ρμw
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
400
500
600
700
800
900
1000
1100
HT (GeV)

par name:	value	+/- error	[min - max]
ewk_1b_ge4j_0:	1.81e+02	+/- 1.0e+01	[0.0e+00 - 2.1e+03]
fZinv_1b_ge4j_0:	2.31e-01	+/- 2.4e-02	[0.0e+00 - 1.0e+00]
ewk_1b_ge4j_1:	1.14e+02	+/- 6.9e+00	[0.0e+00 - 1.4e+03]
fZinv_1b_ge4j_1:	2.89e-01	+/- 3.0e-02	[0.0e+00 - 1.0e+00]
ewk_1b_ge4j_2:	4.59e+01	+/- 4.3e+00	[0.0e+00 - 4.5e+02]
fZinv_1b_ge4j_2:	3.85e-01	+/- 5.0e-02	[0.0e+00 - 1.0e+00]
ewk_1b_ge4j_3:	1.83e+01	+/- 2.7e+00	[0.0e+00 - 1.4e+02]
fZinv_1b_ge4j_3:	3.70e-01	+/- 7.9e-02	[0.0e+00 - 1.0e+00]
ewk_1b_ge4j_4:	6.47e+00	+/- 1.4e+00	[0.0e+00 - 8.0e+01]
fZinv_1b_ge4j_4:	4.75e-01	+/- 1.1e-01	[0.0e+00 - 1.0e+00]
ewk_1b_ge4j_5:	5.10e+00	+/- 1.7e+00	[0.0e+00 - 6.0e+01]
fZinv_1b_ge4j_5:	5.57e-01	+/- 1.5e-01	[0.0e+00 - 1.0e+00]
ewk_1b_ge4j_6:	2.59e+00	+/- 9.7e-01	[0.0e+00 - 2.0e+01]
fZinv_1b_ge4j_6:	7.19e-01	+/- 1.1e-01	[0.0e+00 - 1.0e+00]
ewk_1b_ge4j_7:	1.94e+00	+/- 1.2e+00	[0.0e+00 - 1.0e+01]
fZinv_1b_ge4j_7:	8.18e-01	+/- 1.2e-01	[0.0e+00 - 1.0e+00]
rhoPhotZ_1b_ge4j_0:	1.00e+00	+/- 5.8e-02	[0.0e+00 - 3.0e+00]
rhoPhotZ_1b_ge4j_1:	1.00e+00	+/- 5.8e-02	[0.0e+00 - 3.0e+00]
rhoPhotZ_1b_ge4j_2:	1.00e+00	+/- 7.7e-02	[0.0e+00 - 3.0e+00]
rhoPhotZ_1b_ge4j_3:	1.00e+00	+/- 1.3e-01	[0.0e+00 - 3.0e+00]
rhoPhotZ_1b_ge4j_4:	1.00e+00	+/- 1.3e-01	[0.0e+00 - 3.0e+00]
rhoPhotZ_1b_ge4j_5:	1.00e+00	+/- 1.3e-01	[0.0e+00 - 3.0e+00]
rhoPhotZ_1b_ge4j_6:	1.00e+00	+/- 1.3e-01	[0.0e+00 - 3.0e+00]
rhoPhotZ_1b_ge4j_7:	1.00e+00	+/- 1.9e-01	[0.0e+00 - 3.0e+00]
rhoMuonW_1b_ge4j_0:	1.00e+00	+/- 5.8e-02	[0.0e+00 - 3.0e+00]
rhoMuonW_1b_ge4j_1:	1.00e+00	+/- 5.8e-02	[0.0e+00 - 3.0e+00]
rhoMuonW_1b_ge4j_2:	1.00e+00	+/- 7.7e-02	[0.0e+00 - 3.0e+00]
rhoMuonW_1b_ge4j_3:	1.00e+00	+/- 1.3e-01	[0.0e+00 - 3.0e+00]
rhoMuonW_1b_ge4j_4:	1.00e+00	+/- 1.3e-01	[0.0e+00 - 3.0e+00]
rhoMuonW_1b_ge4j_5:	1.00e+00	+/- 1.3e-01	[0.0e+00 - 3.0e+00]
rhoMuonW_1b_ge4j_6:	1.00e+00	+/- 1.3e-01	[0.0e+00 - 3.0e+00]
rhoMuonW_1b_ge4j_7:	9.99e-01	+/- 1.9e-01	[0.0e+00 - 3.0e+00]
ewk_2b_ge4j_0:	7.18e+01	+/- 4.9e+00	[0.0e+00 - 7.9e+02]
ewk_2b_ge4j_1:	4.42e+01	+/- 3.2e+00	[0.0e+00 - 5.2e+02]
ewk_2b_ge4j_2:	1.84e+01	+/- 1.8e+00	[0.0e+00 - 3.1e+02]
ewk_2b_ge4j_3:	6.92e+00	+/- 1.1e+00	[0.0e+00 - 1.2e+02]
ewk_2b_ge4j_4:	1.91e+00	+/- 3.6e-01	[0.0e+00 - 1.0e+01]
ewk_2b_ge4j_5:	8.63e-01	+/- 2.3e-01	[0.0e+00 - 2.0e+01]
ewk_2b_ge4j_6:	4.54e-01	+/- 1.5e-01	[0.0e+00 - 1.0e+01]
ewk_2b_ge4j_7:	3.76e-01	+/- 1.4e-01	[0.0e+00 - 1.0e+01]

par name:	value	+/- error	[min - max]
rhoMuonW_2b_ge4j_0:	1.00e+00	+/- 5.8e-02	[0.0e+00 - 3.0e+00]
rhoMuonW_2b_ge4j_1:	1.00e+00	+/- 5.8e-02	[0.0e+00 - 3.0e+00]
rhoMuonW_2b_ge4j_2:	1.00e+00	+/- 7.7e-02	[0.0e+00 - 3.0e+00]
rhoMuonW_2b_ge4j_3:	1.00e+00	+/- 1.3e-01	[0.0e+00 - 3.0e+00]
rhoMuonW_2b_ge4j_4:	1.00e+00	+/- 1.3e-01	[0.0e+00 - 3.0e+00]
rhoMuonW_2b_ge4j_5:	1.00e+00	+/- 1.3e-01	[0.0e+00 - 3.0e+00]
rhoMuonW_2b_ge4j_6:	1.00e+00	+/- 1.3e-01	[0.0e+00 - 3.0e+00]
rhoMuonW_2b_ge4j_7:	1.00e+00	+/- 1.9e-01	[0.0e+00 - 3.0e+00]

correlation_matrix