NNCuts on LRHWW, Mll and MetSig

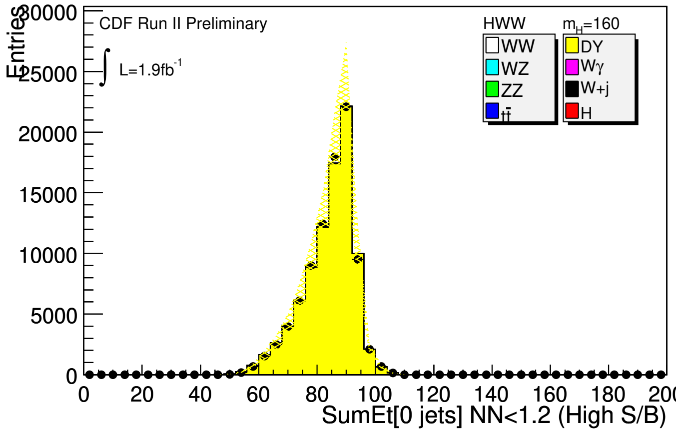
Richard St. Denis University of Glasgow/CDF

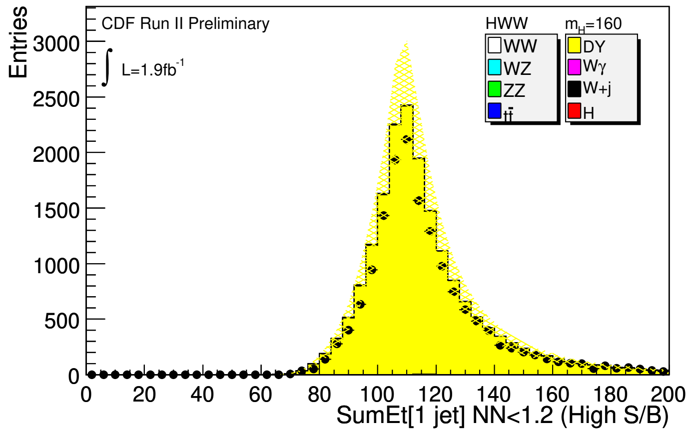
17 December 2007

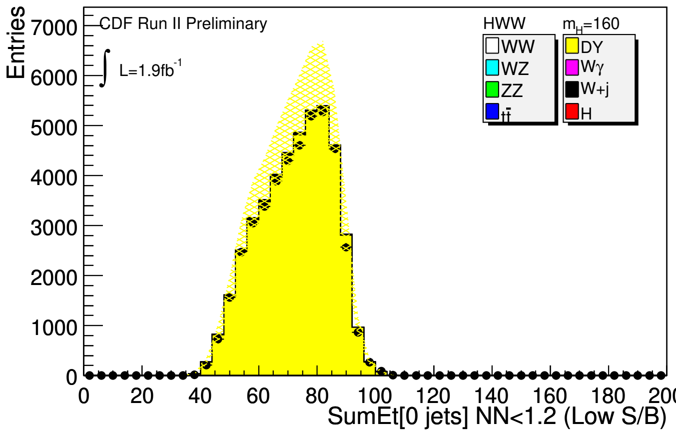
Outline

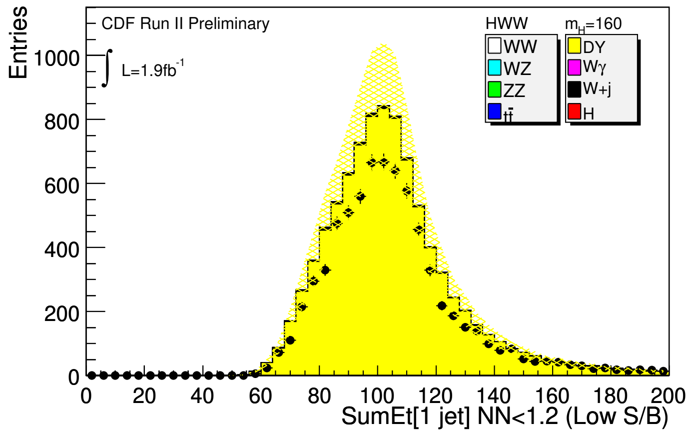
- MetSig, Met and SumEt by jet and Hi/Lo S/B

SumEt

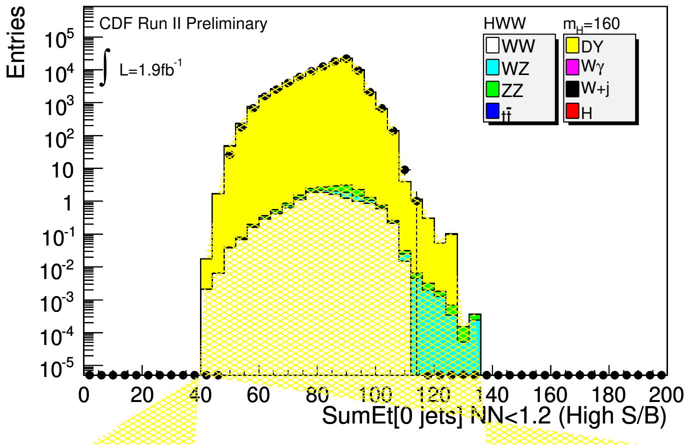

CDF Run II Preliminary
$\int L=1.9fb^{-1}$
HWW
$m_H=160$
WW
WZ
ZZ
$t\bar{t}$
DY
Wγ
W+j
H
Entries
0
5000
10000
15000
20000
25000
30000
0 20 40 60 80 100 120 140 160 180 200
SumEt[0 jets] NN<1.2 (High S/B)

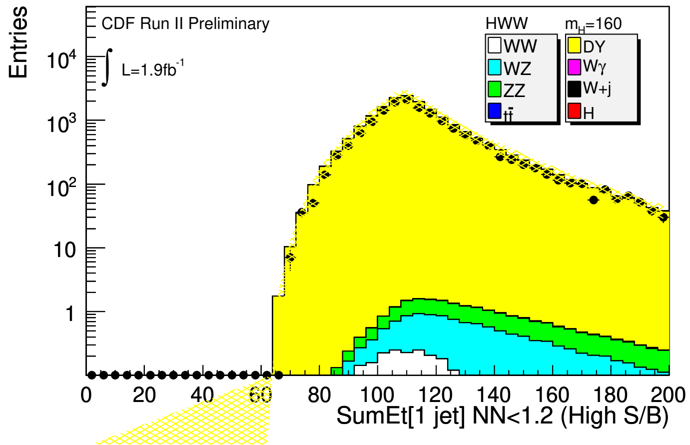

CDF Run II Preliminary
$\int L=1.9fb^{-1}$
HWW
$m_H=160$
WW
WZ
ZZ
$t\bar{t}$
DY
Wγ
W+j
H
Entries
0
500
1000
1500
2000
2500
3000
0 20 40 60 80 100 120 140 160 180 200
SumEt[1 jet] NN<1.2 (High S/B)

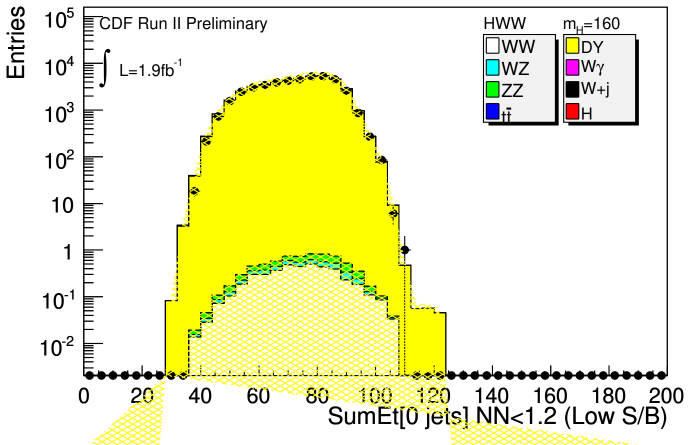

CDF Run II Preliminary
$\int L=1.9fb^{-1}$
HWW
$m_H=160$
WW
WZ
ZZ
$t\bar{t}$
DY
Wγ
W+j
H
Entries
0
1000
2000
3000
4000
5000
6000
7000
0 20 40 60 80 100 120 140 160 180 200
SumEt[0 jets] NN<1.2 (Low S/B)

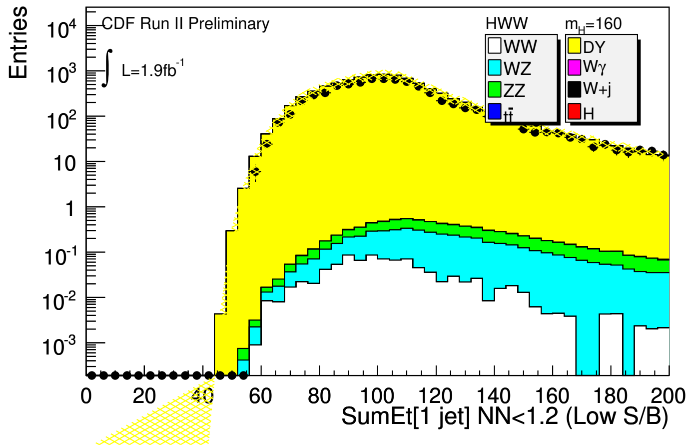

CDF Run II Preliminary
$\int L=1.9fb^{-1}$
HWW
$m_H=160$
WW
WZ
ZZ
$t\bar{t}$
DY
Wγ
W+j
H
Entries
0
200
400
600
800
1000
0 20 40 60 80 100 120 140 160 180 200
SumEt[1 jet] NN<1.2 (Low S/B)

SumEt

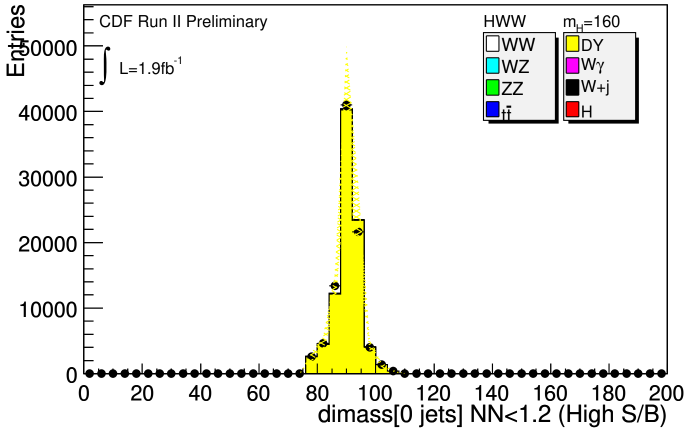

CDF Run II Preliminary
L=1.9fb⁻¹
HWW
m_H=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
SumEt[0 jets] NN<1.2 (High S/B)

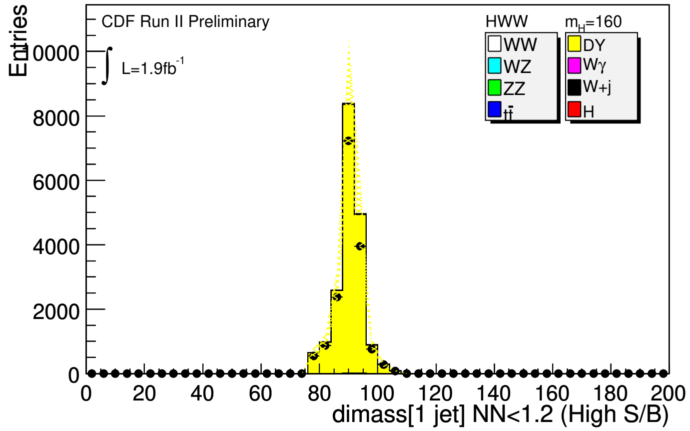

CDF Run II Preliminary
L=1.9fb⁻¹
HWW
m_H=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
SumEt[1 jet] NN<1.2 (High S/B)

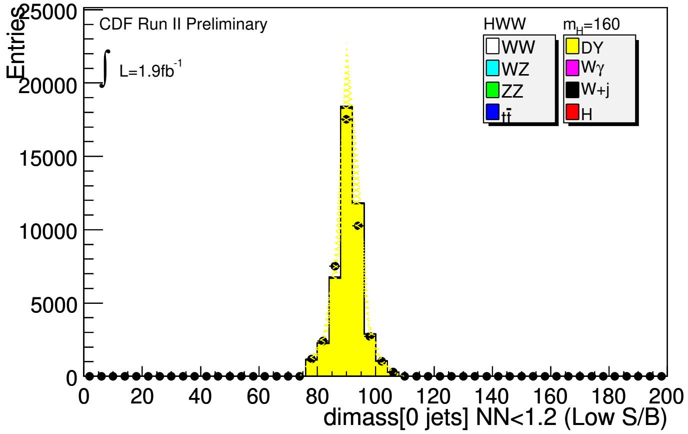

CDF Run II Preliminary
L=1.9fb⁻¹
HWW
m_H=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
SumEt[0 jets] NN<1.2 (Low S/B)

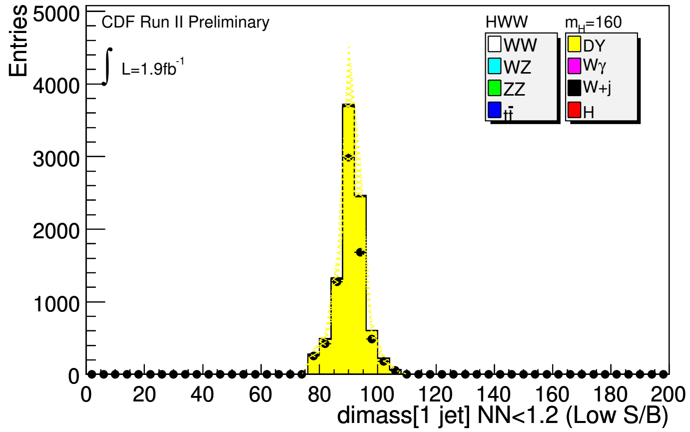

CDF Run II Preliminary
L=1.9fb⁻¹
HWW
m_H=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
SumEt[1 jet] NN<1.2 (Low S/B)

DiMass

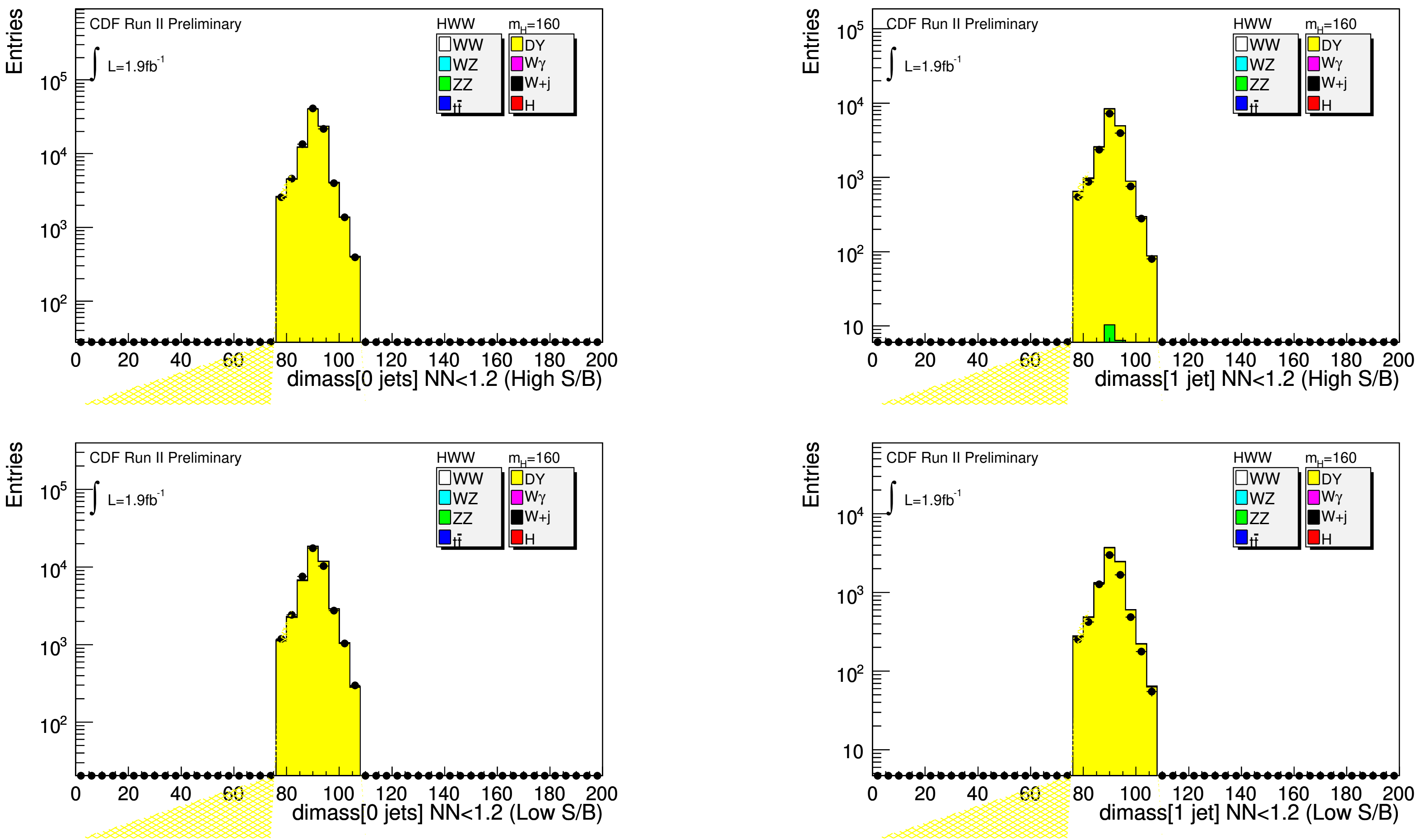

CDF Run II Preliminary
L=1.9fb-1
HWW
mH=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
dimass[0 jets] NN<1.2 (High S/B)


CDF Run II Preliminary
L=1.9fb-1
HWW
mH=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
dimass[1 jet] NN<1.2 (High S/B)

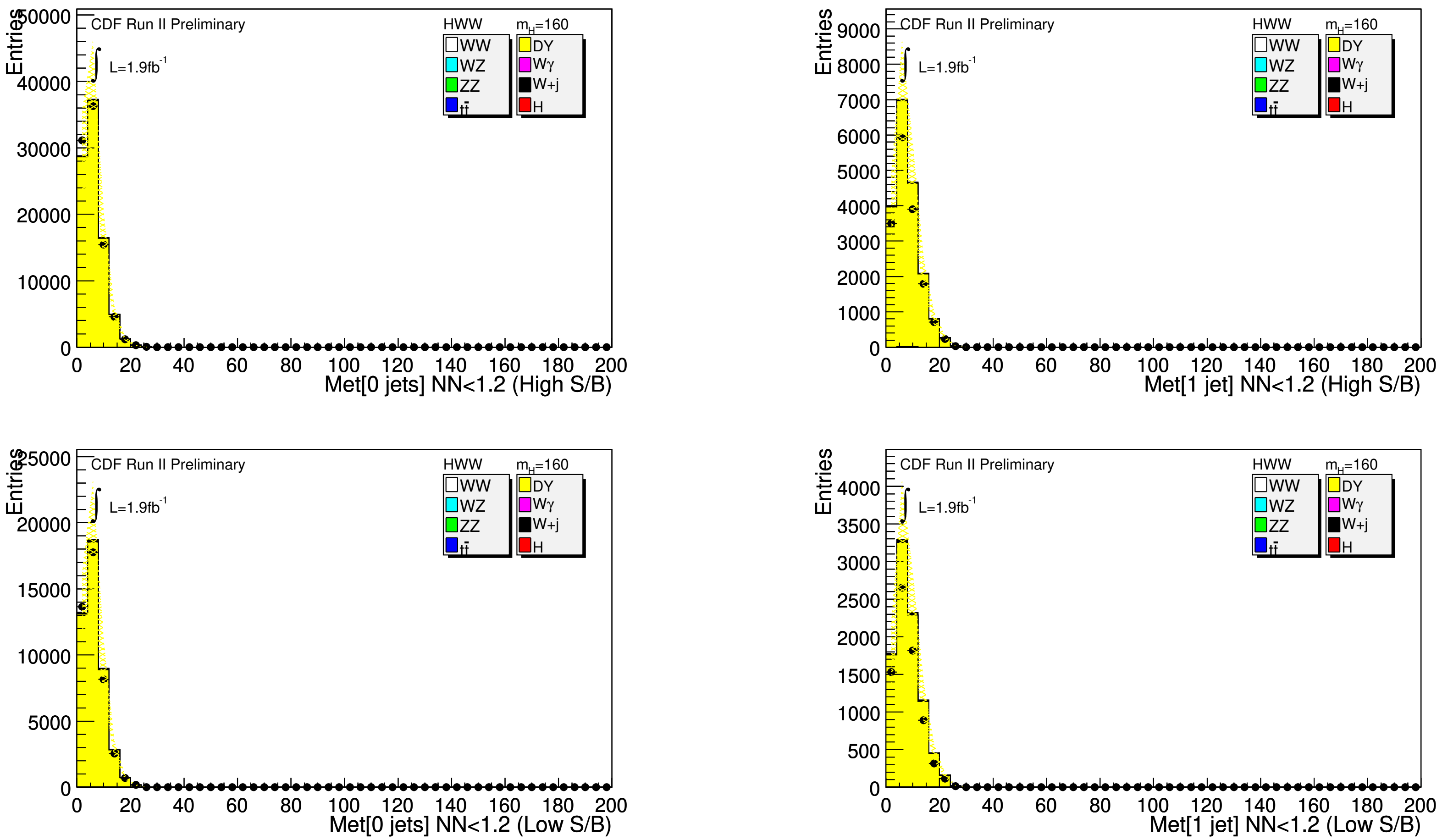

CDF Run II Preliminary
L=1.9fb-1
HWW
mH=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
dimass[0 jets] NN<1.2 (Low S/B)


CDF Run II Preliminary
L=1.9fb-1
HWW
mH=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
dimass[1 jet] NN<1.2 (Low S/B)

DiMass

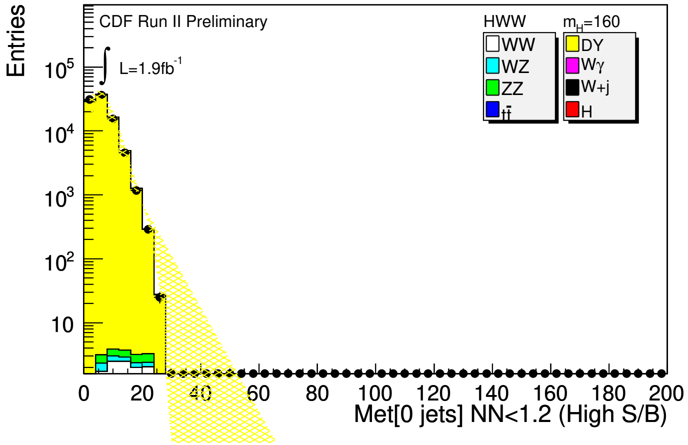

Entries
CDF Run II Preliminary
HWW
m_H=160
WW
WZ
ZZ
$t\bar{t}$
DY
Wγ
W+j
H
$\int$ L=1.9fb^{-1}
dimass[0 jets] NN<1.2 (High S/B)
dimass[1 jet] NN<1.2 (High S/B)
dimass[0 jets] NN<1.2 (Low S/B)
dimass[1 jet] NN<1.2 (Low S/B)

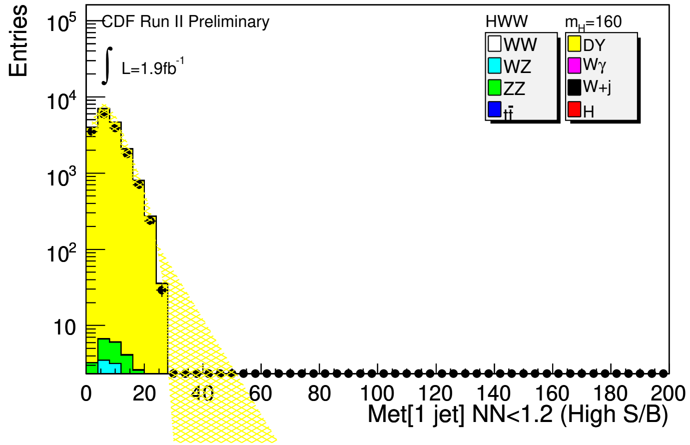
Met

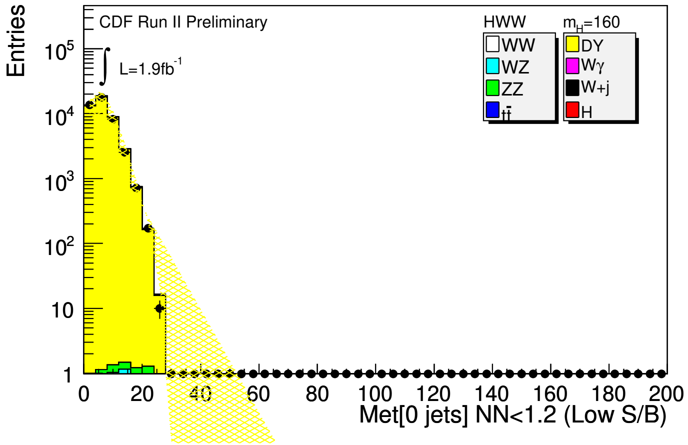


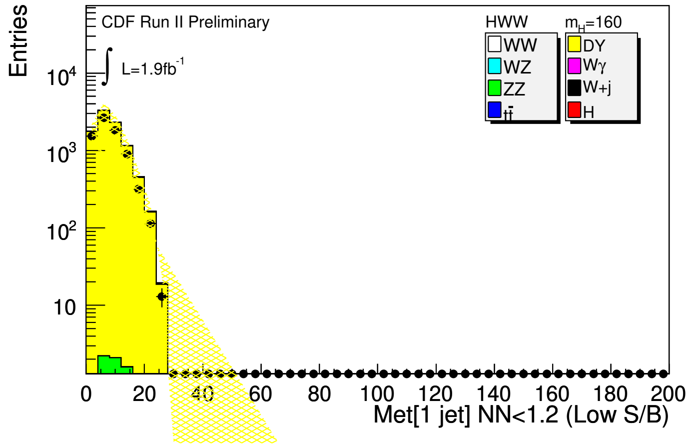
CDF Run II Preliminary
L=1.9fb-1
HWW
mH=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
Met[0 jets] NN<1.2 (High S/B)
Met[1 jet] NN<1.2 (High S/B)
Met[0 jets] NN<1.2 (Low S/B)
Met[1 jet] NN<1.2 (Low S/B)

Met

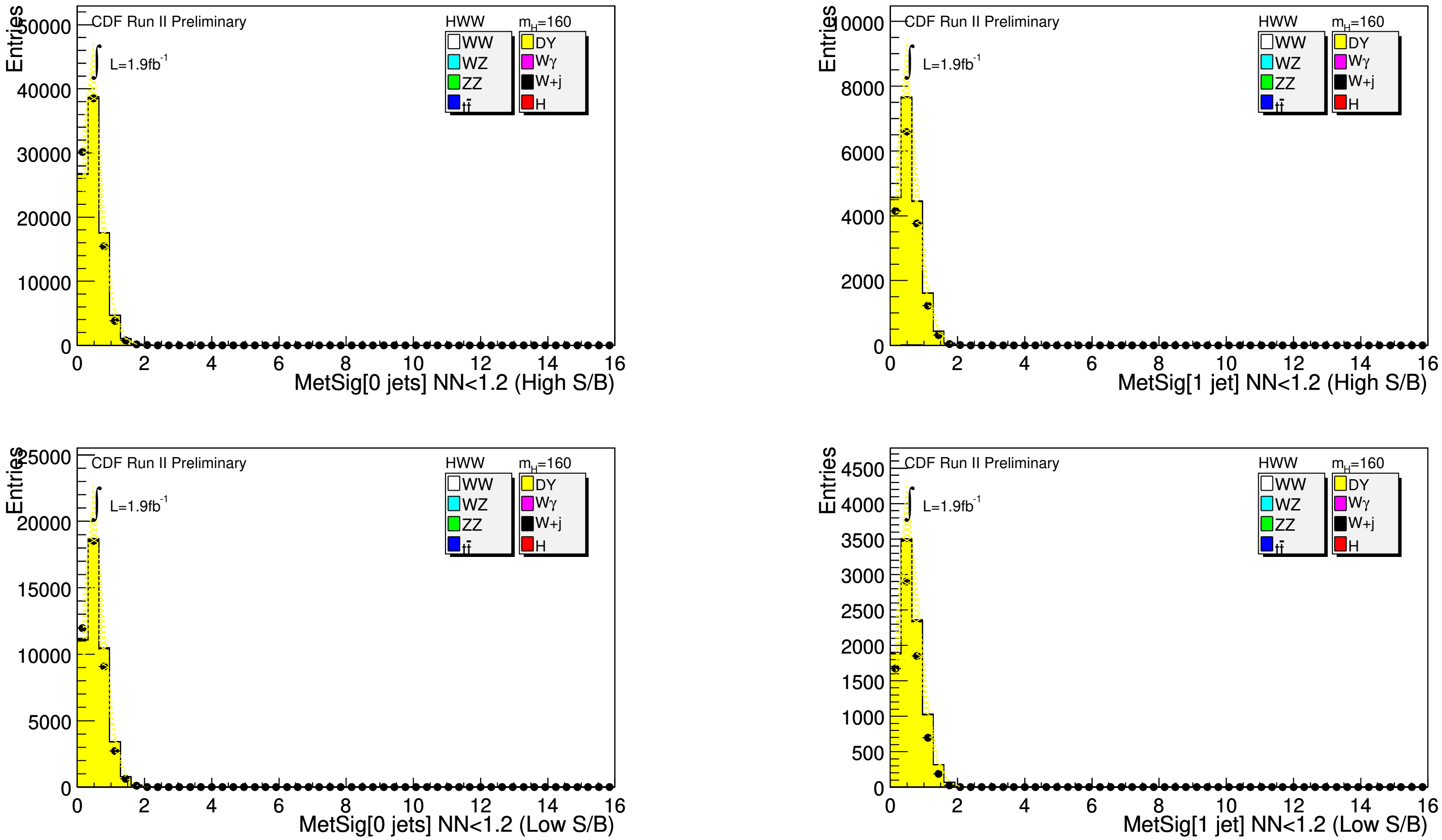

CDF Run II Preliminary
L=1.9fb-1
HWW
mH=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
Met[0 jets] NN<1.2 (High S/B)


CDF Run II Preliminary
L=1.9fb-1
HWW
mH=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
Met[1 jet] NN<1.2 (High S/B)

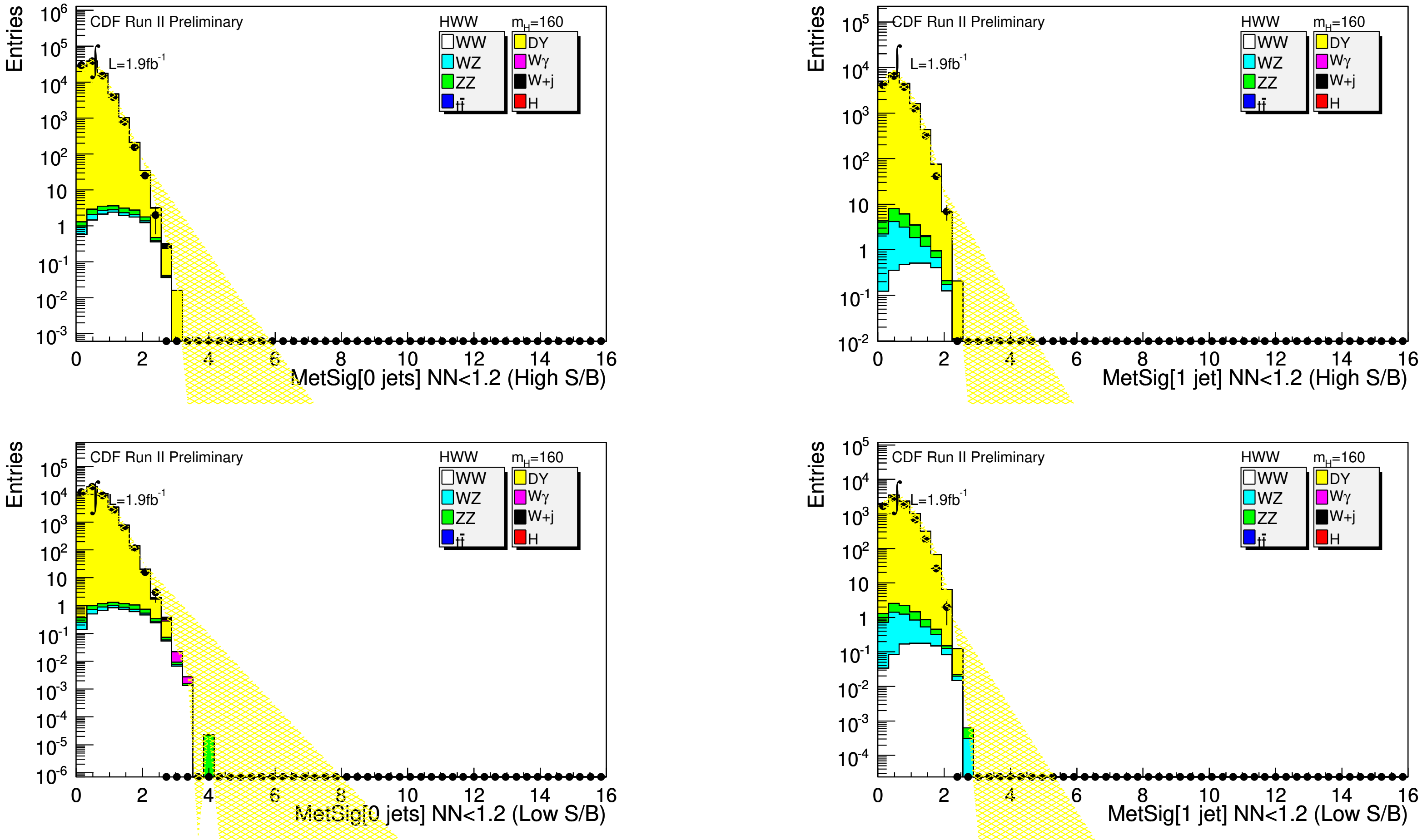

CDF Run II Preliminary
L=1.9fb-1
HWW
mH=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
Met[0 jets] NN<1.2 (Low S/B)


CDF Run II Preliminary
L=1.9fb-1
HWW
mH=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
Met[1 jet] NN<1.2 (Low S/B)

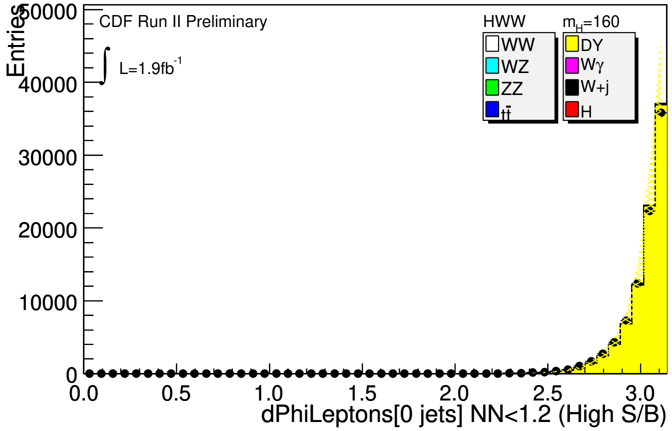
MetSig

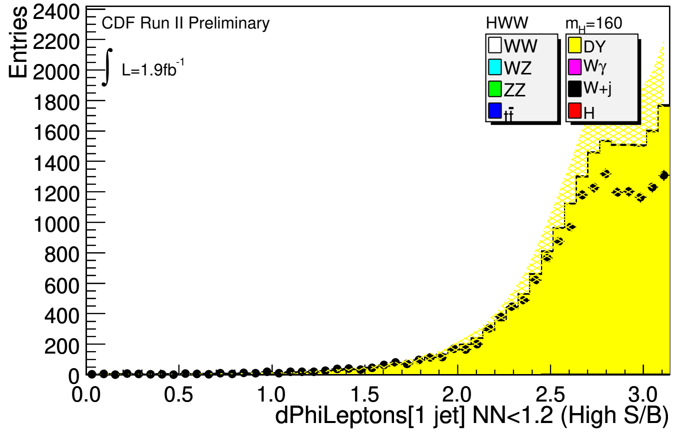

CDF Run II Preliminary
L=1.9fb-1
HWW
mH=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
MetSig[0 jets] NN<1.2 (High S/B)
MetSig[1 jet] NN<1.2 (High S/B)
MetSig[0 jets] NN<1.2 (Low S/B)
MetSig[1 jet] NN<1.2 (Low S/B)

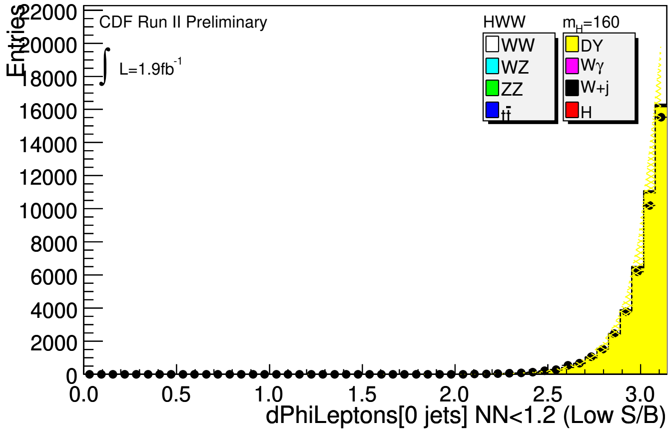
MetSig

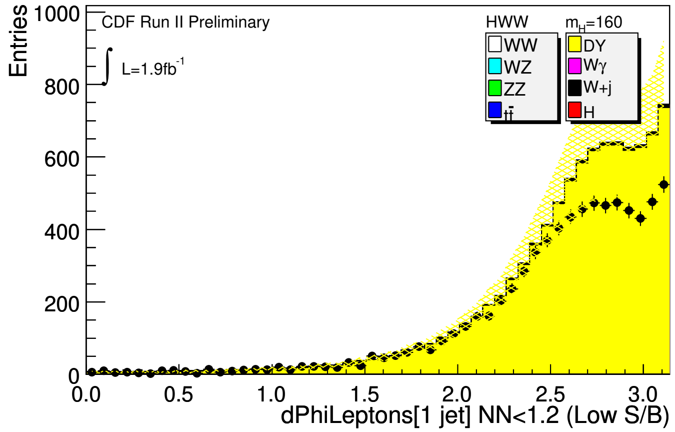

CDF Run II Preliminary
L=1.9fb-1
HWW
mH=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
MetSig[0 jets] NN<1.2 (High S/B)
MetSig[1 jet] NN<1.2 (High S/B)
MetSig[0 jets] NN<1.2 (Low S/B)
MetSig[1 jet] NN<1.2 (Low S/B)

dPhiLeptons

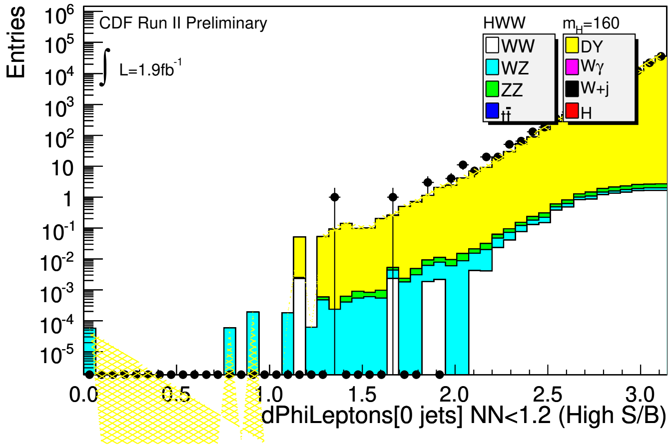


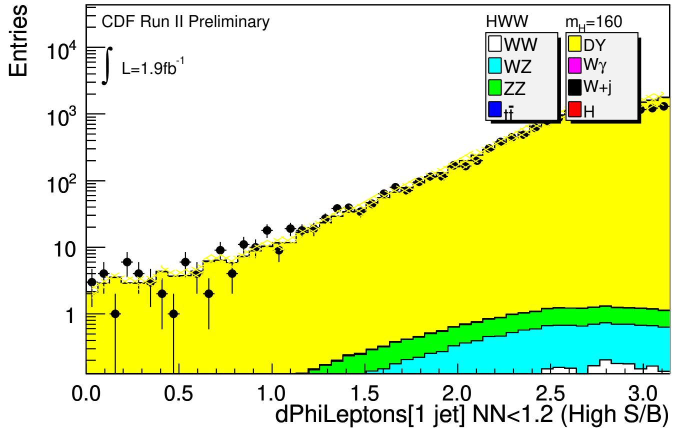


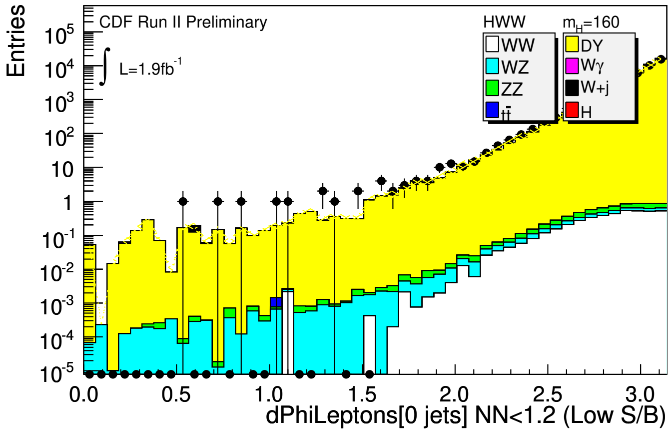


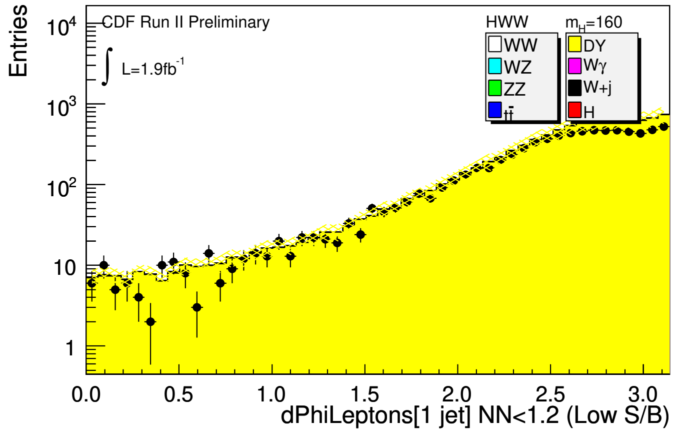


dPhiLeptons

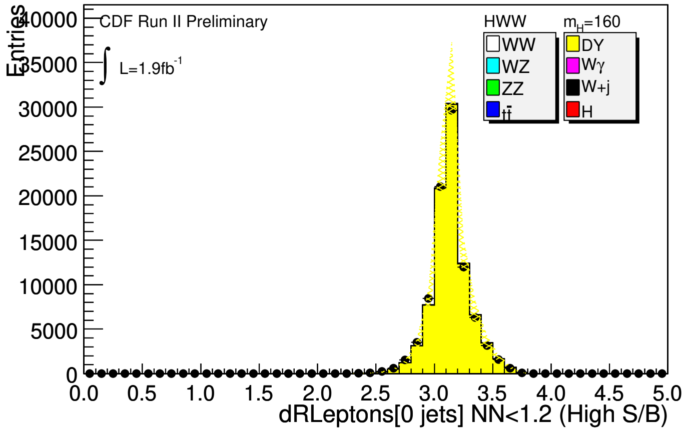


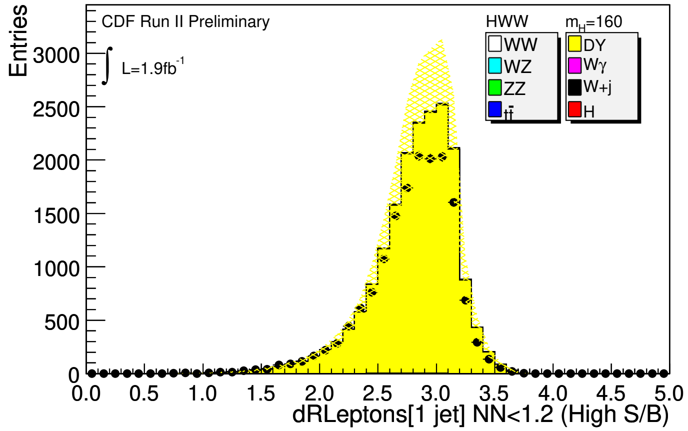


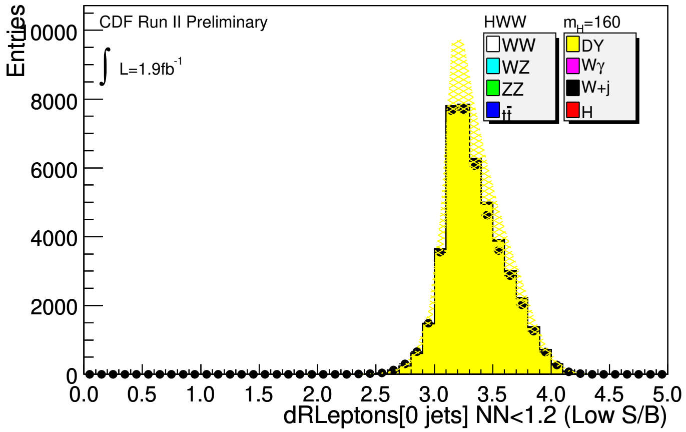


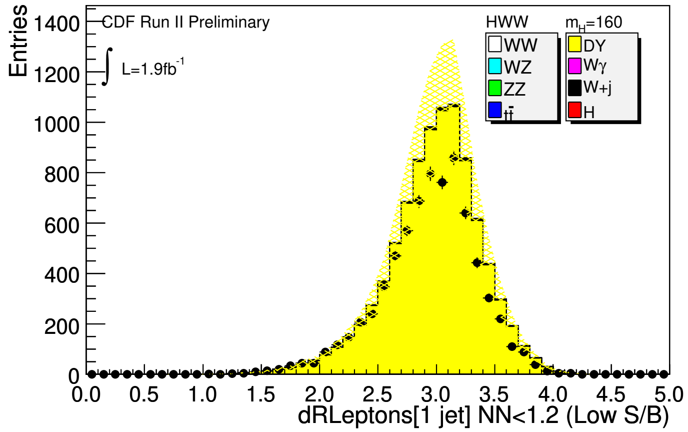


dRLeptons

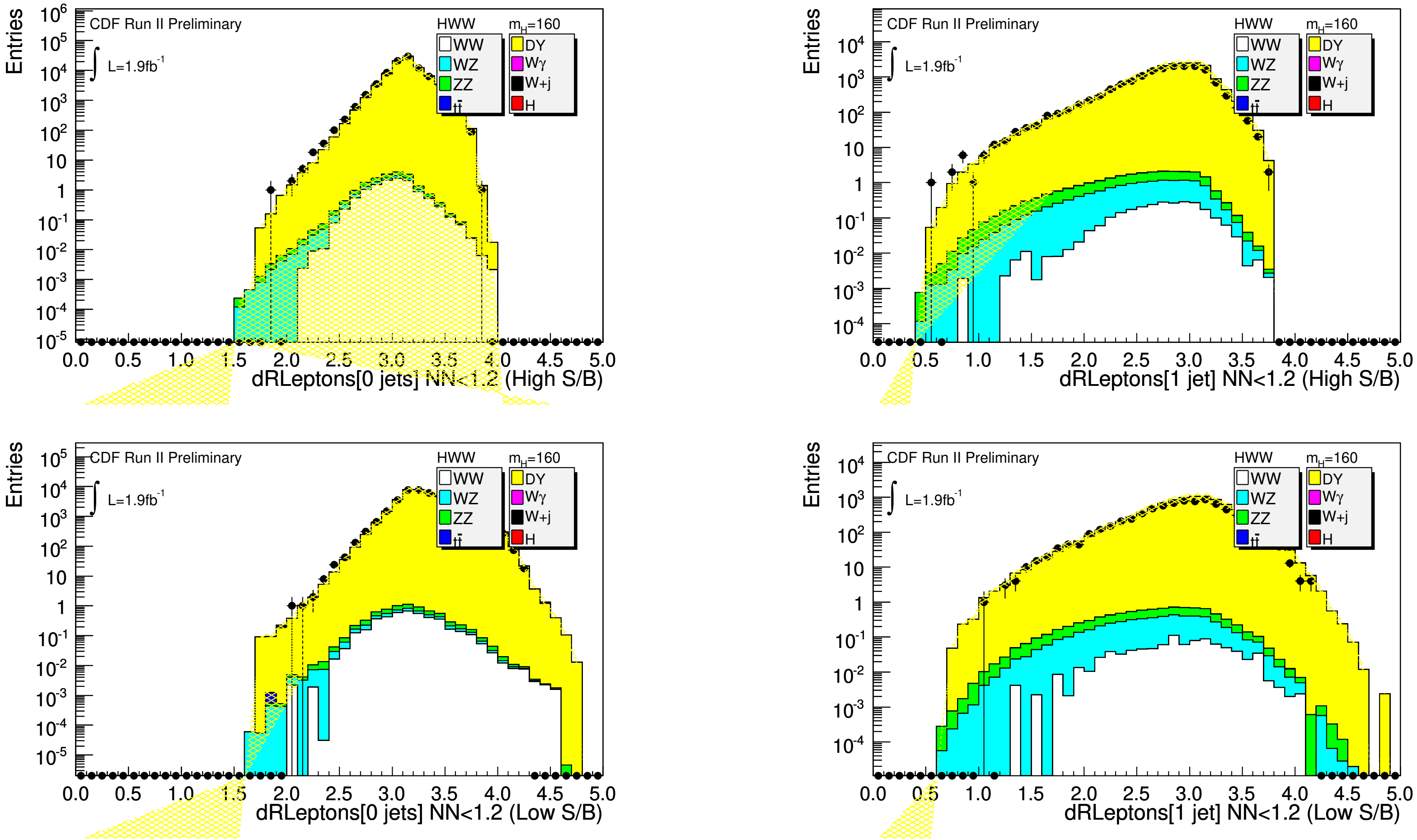

CDF Run II Preliminary
∫ L=1.9fb⁻¹
HWW
m_H=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
dRLeptons[0 jets] NN<1.2 (High S/B)


CDF Run II Preliminary
∫ L=1.9fb⁻¹
HWW
m_H=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
dRLeptons[1 jet] NN<1.2 (High S/B)

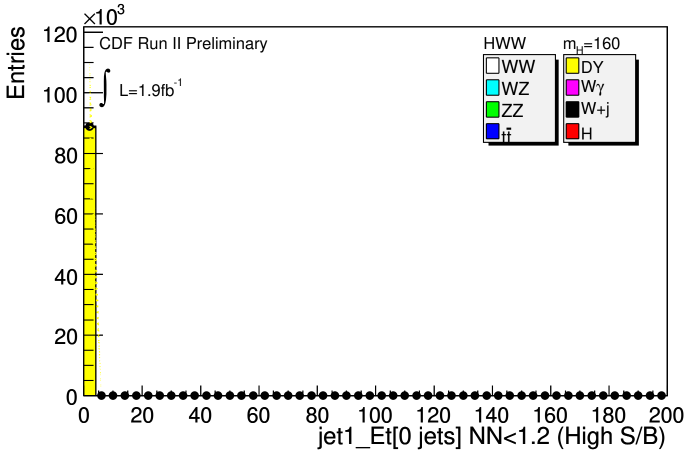

CDF Run II Preliminary
∫ L=1.9fb⁻¹
HWW
m_H=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
dRLeptons[0 jets] NN<1.2 (Low S/B)

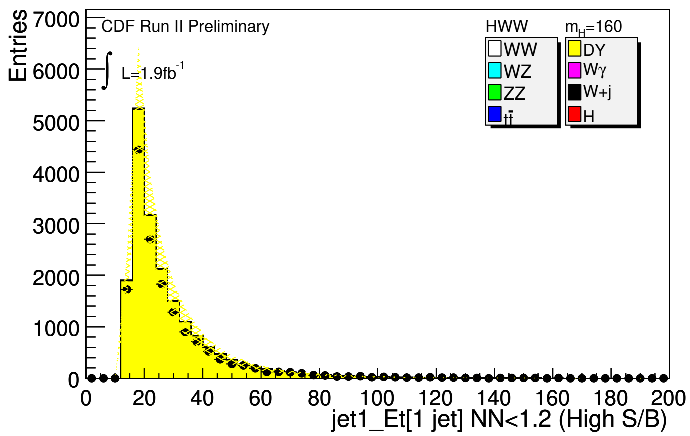

CDF Run II Preliminary
∫ L=1.9fb⁻¹
HWW
m_H=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
Entries
dRLeptons[1 jet] NN<1.2 (Low S/B)

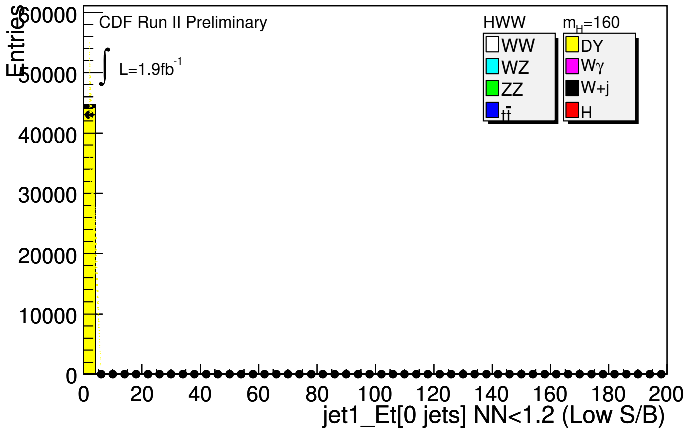
dRLeptons

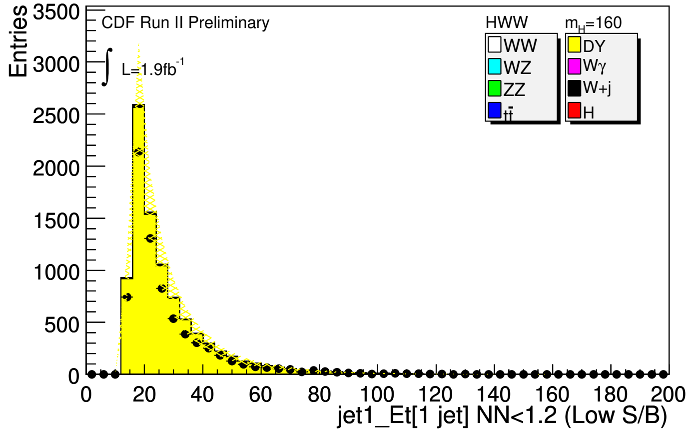

CDF Run II Preliminary
$\int$ L=1.9fb^{-1}
HWW
m_H=160
WW
WZ
ZZ
$t\bar{t}$
DY
Wγ
W+j
H
Entries
dRLeptons[0 jets] NN<1.2 (High S/B)
dRLeptons[1 jet] NN<1.2 (High S/B)
dRLeptons[0 jets] NN<1.2 (Low S/B)
dRLeptons[1 jet] NN<1.2 (Low S/B)

jet1 Et

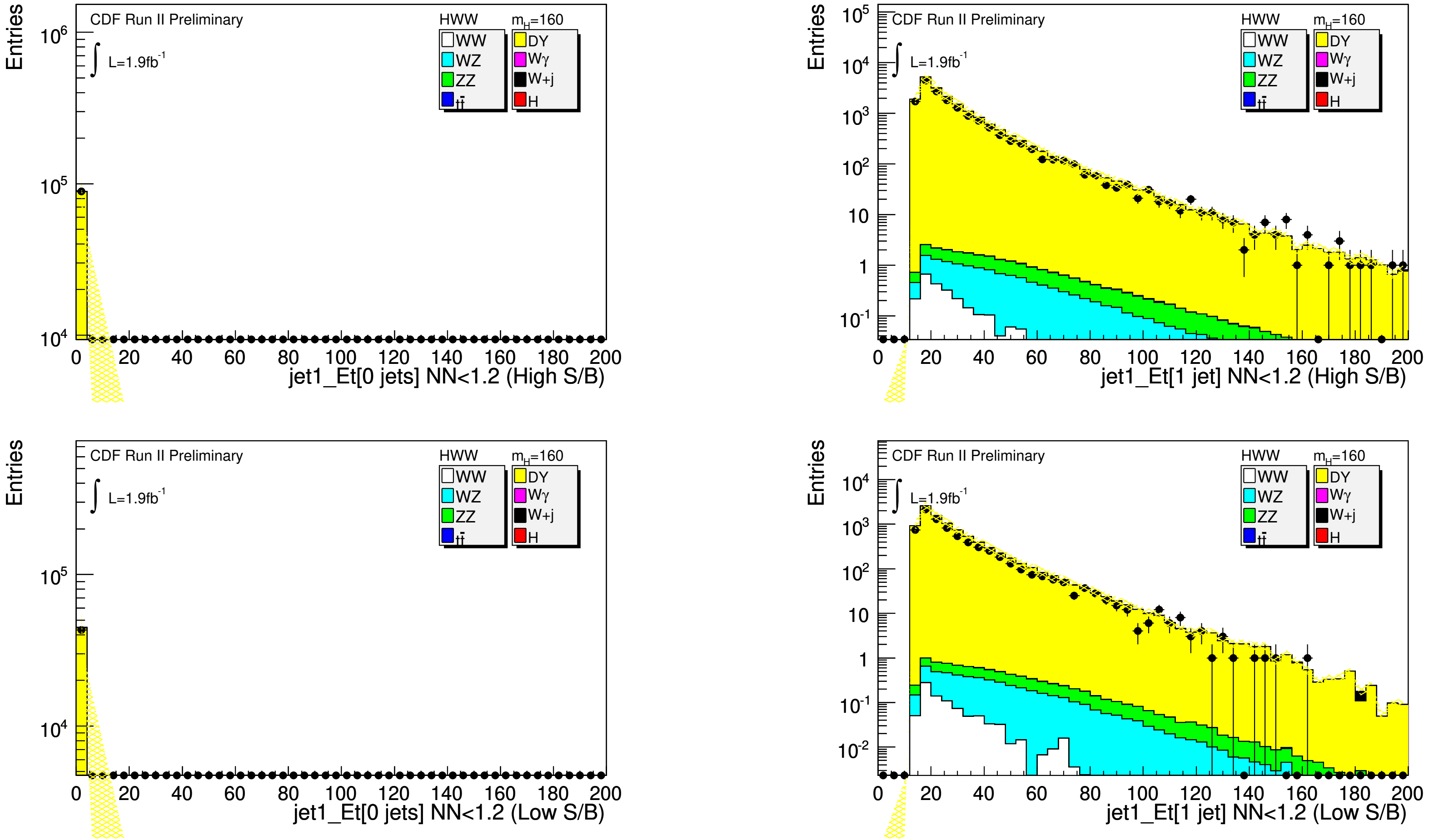

×10^3
Entries
CDF Run II Preliminary
L=1.9fb^-1
HWW
m_H=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
0 20 40 60 80 100 120
0 20 40 60 80 100 120 140 160 180 200
jet1_Et[0 jets] NN<1.2 (High S/B)


Entries
CDF Run II Preliminary
L=1.9fb^-1
HWW
m_H=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
0 1000 2000 3000 4000 5000 6000 7000
0 20 40 60 80 100 120 140 160 180 200
jet1_Et[1 jet] NN<1.2 (High S/B)


Entries
CDF Run II Preliminary
L=1.9fb^-1
HWW
m_H=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
0 10000 20000 30000 40000 50000 60000
0 20 40 60 80 100 120 140 160 180 200
jet1_Et[0 jets] NN<1.2 (Low S/B)


Entries
CDF Run II Preliminary
L=1.9fb^-1
HWW
m_H=160
WW
WZ
ZZ
tt̄
DY
Wγ
W+j
H
0 500 1000 1500 2000 2500 3000 3500
0 20 40 60 80 100 120 140 160 180 200
jet1_Et[1 jet] NN<1.2 (Low S/B)

jet1 Et


CDF Run II Preliminary
$\int$ L=1.9fb^{-1}
HWW
m_H=160
WW
WZ
ZZ
$t\bar{t}$
DY
Wγ
W+j
H
Entries
jet1_Et[0 jets] NN<1.2 (High S/B)
jet1_Et[1 jet] NN<1.2 (High S/B)
jet1_Et[0 jets] NN<1.2 (Low S/B)
jet1_Et[1 jet] NN<1.2 (Low S/B)