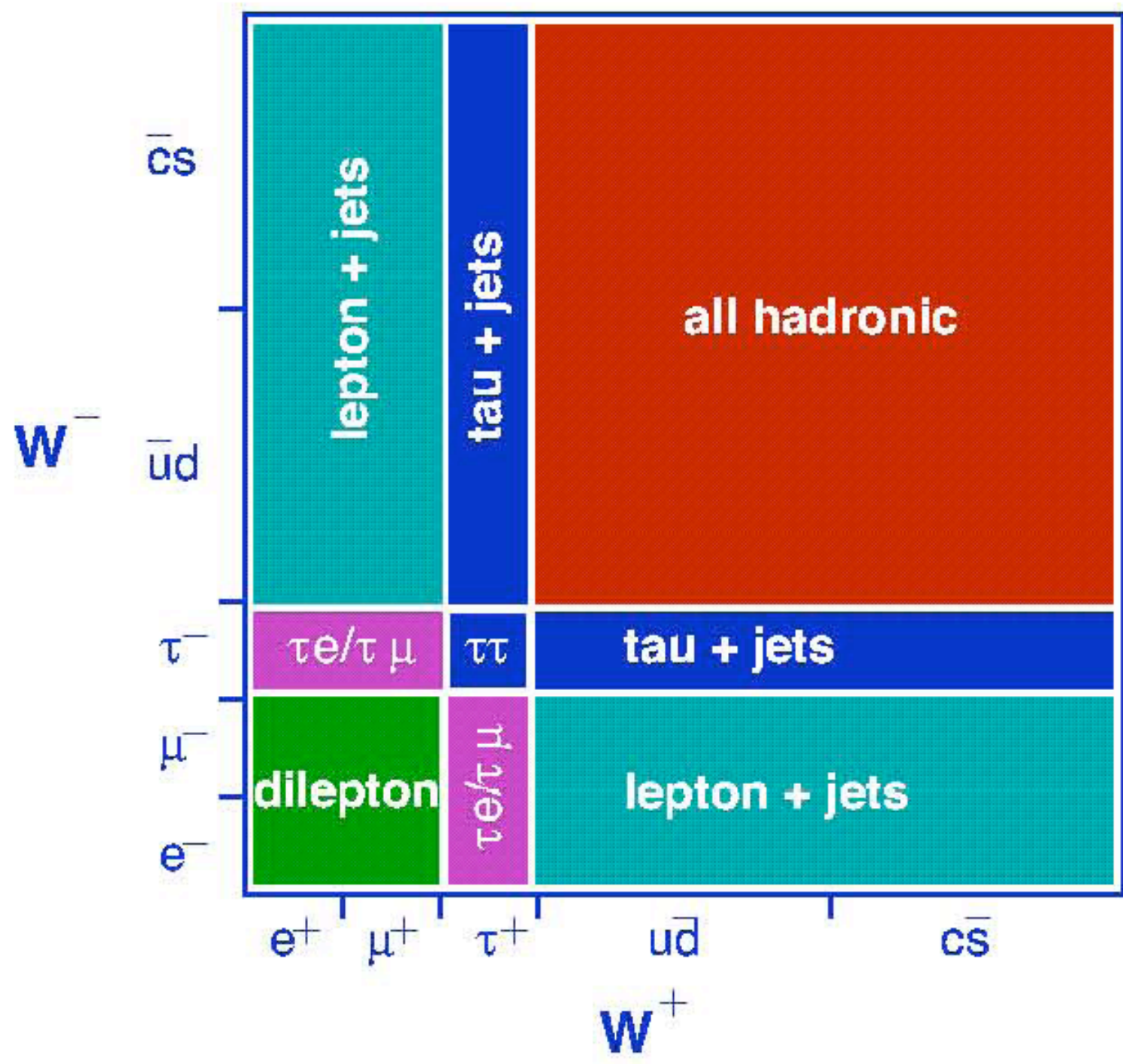


Physics 450:
Particle Physics at the Large
Hadron Collider

Dec. 4 lecture: figures

M. E. Peskin
Fall Term 2008



e + 4 jet event

40758_44414

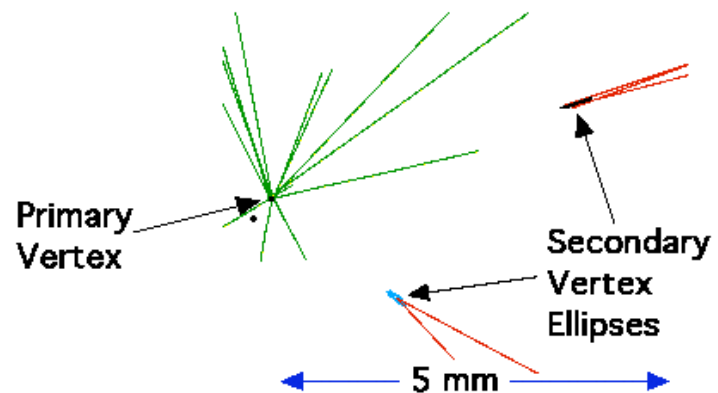
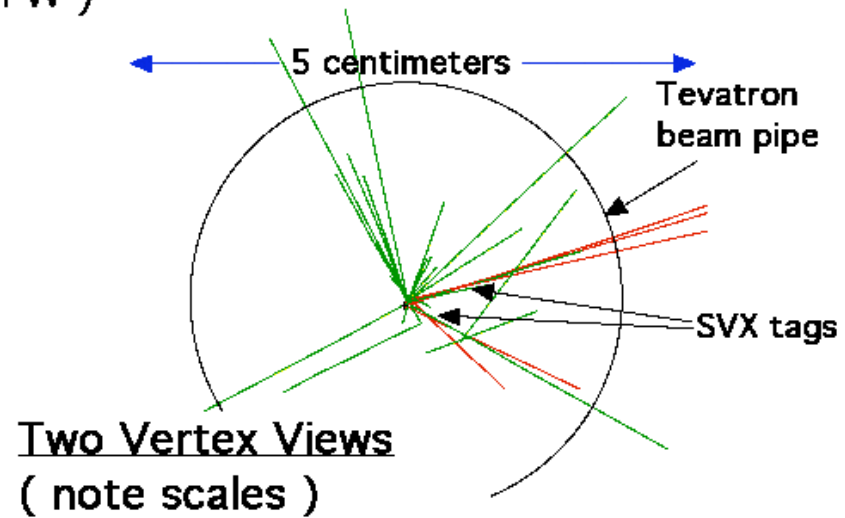
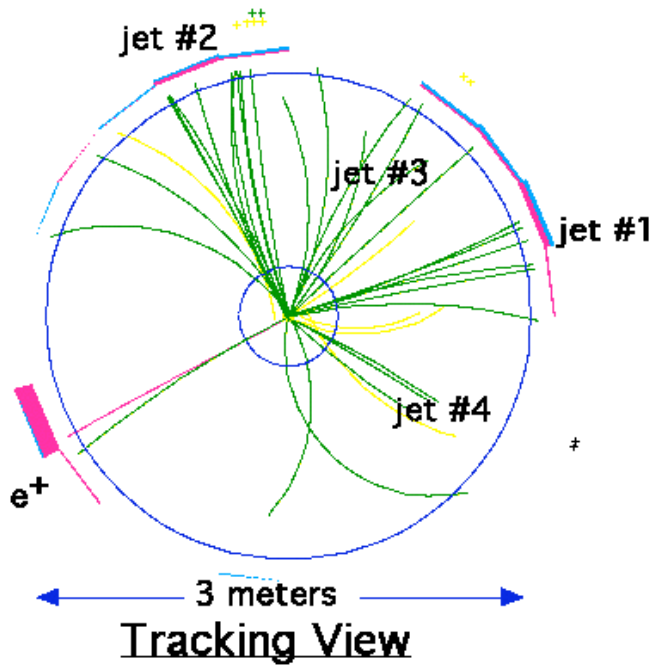
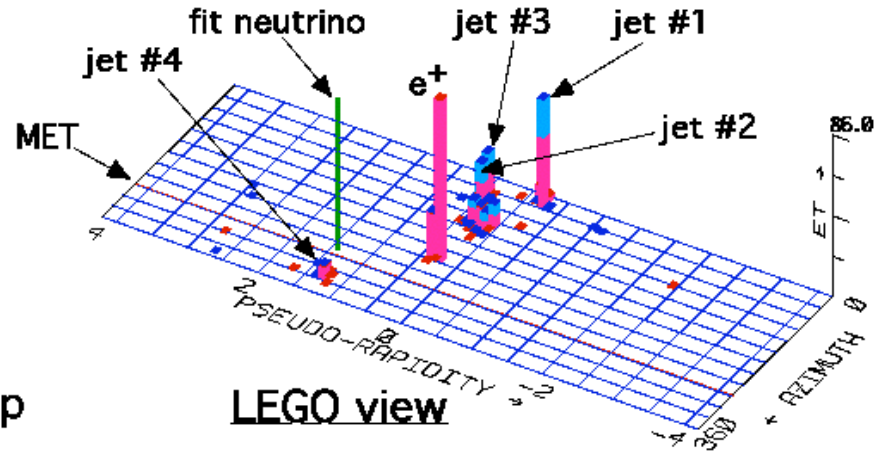
24-September, 1992

TWO jets tagged by SVX

fit top mass is 170 ± 10 GeV

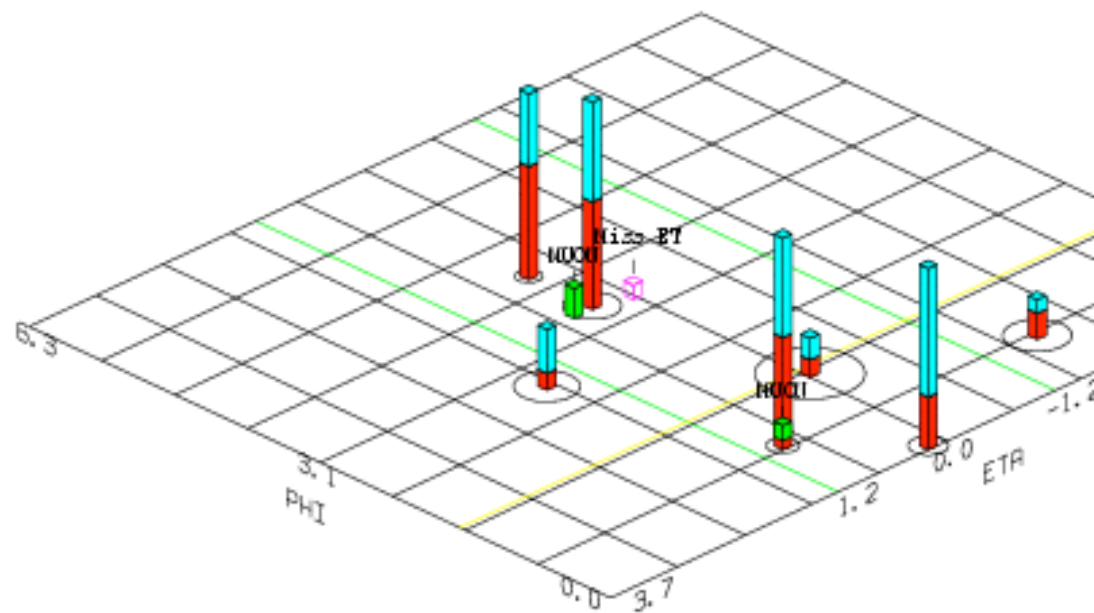
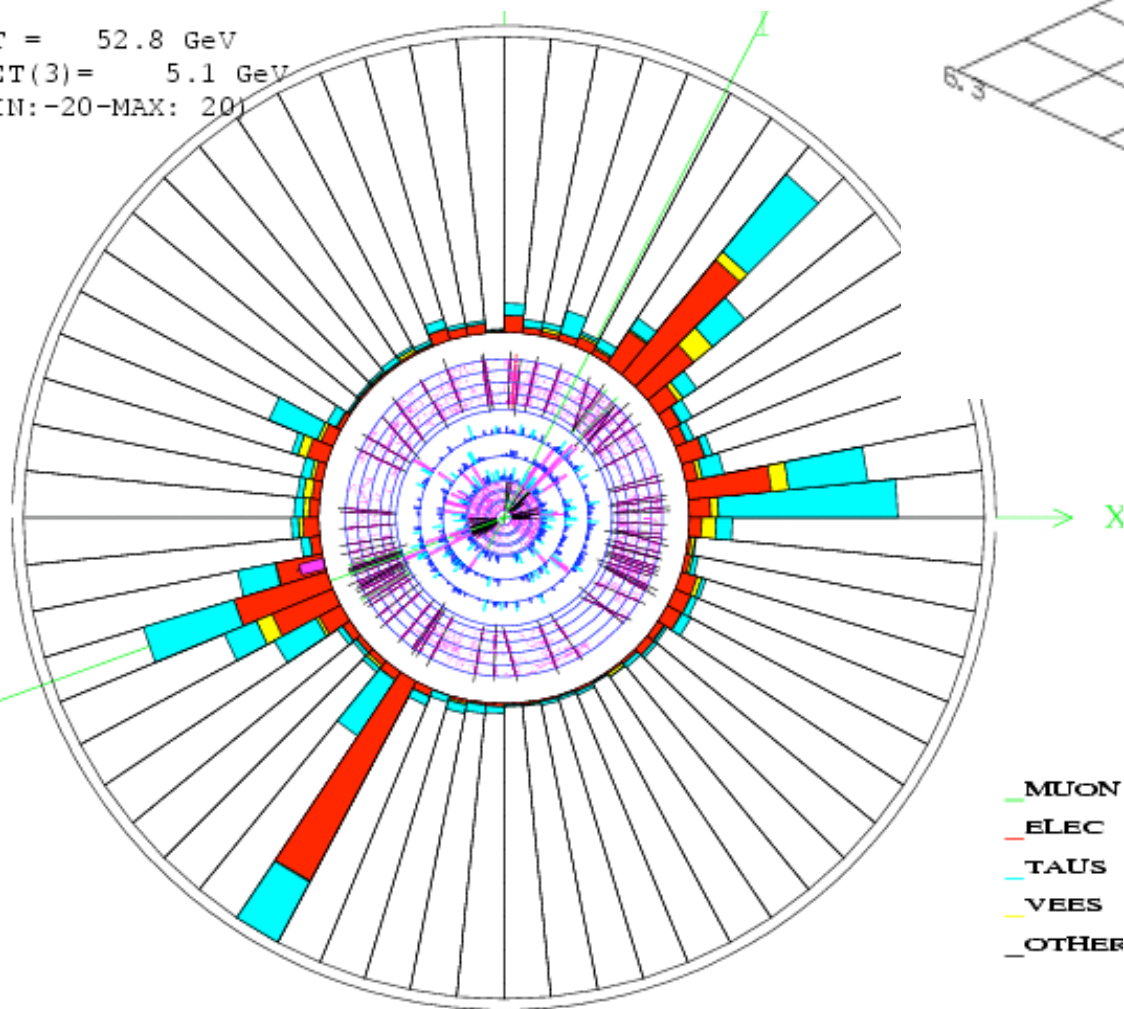
e^+ , Missing E_t , jet #4 from top

jets 1,2,3 from top (2&3 from W)



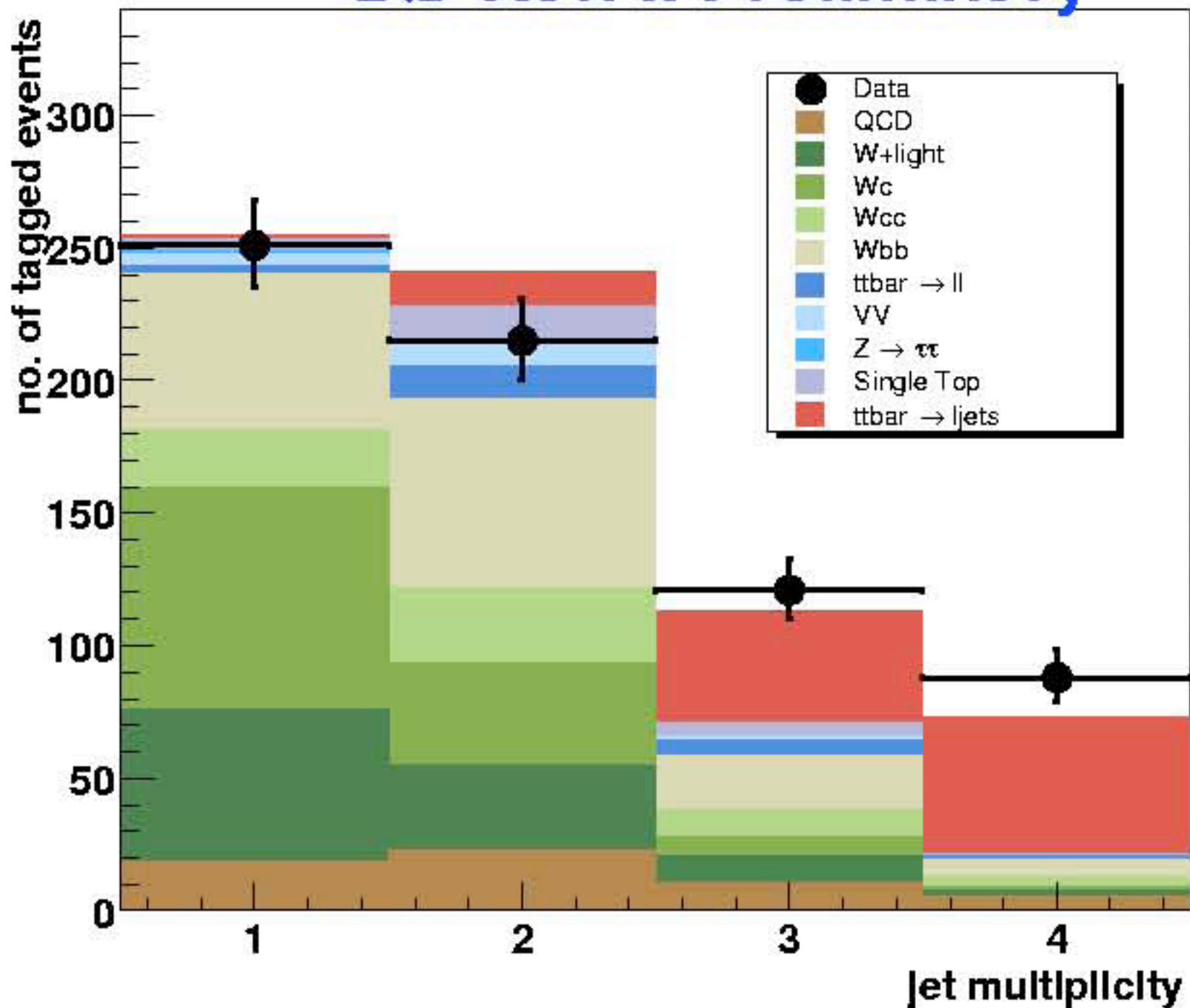
DO 6-jet top quark event

Max ET = 52.8 GeV
MISS ET(3) = 5.1 GeV
ETA (MIN: -20-MAX: 20)

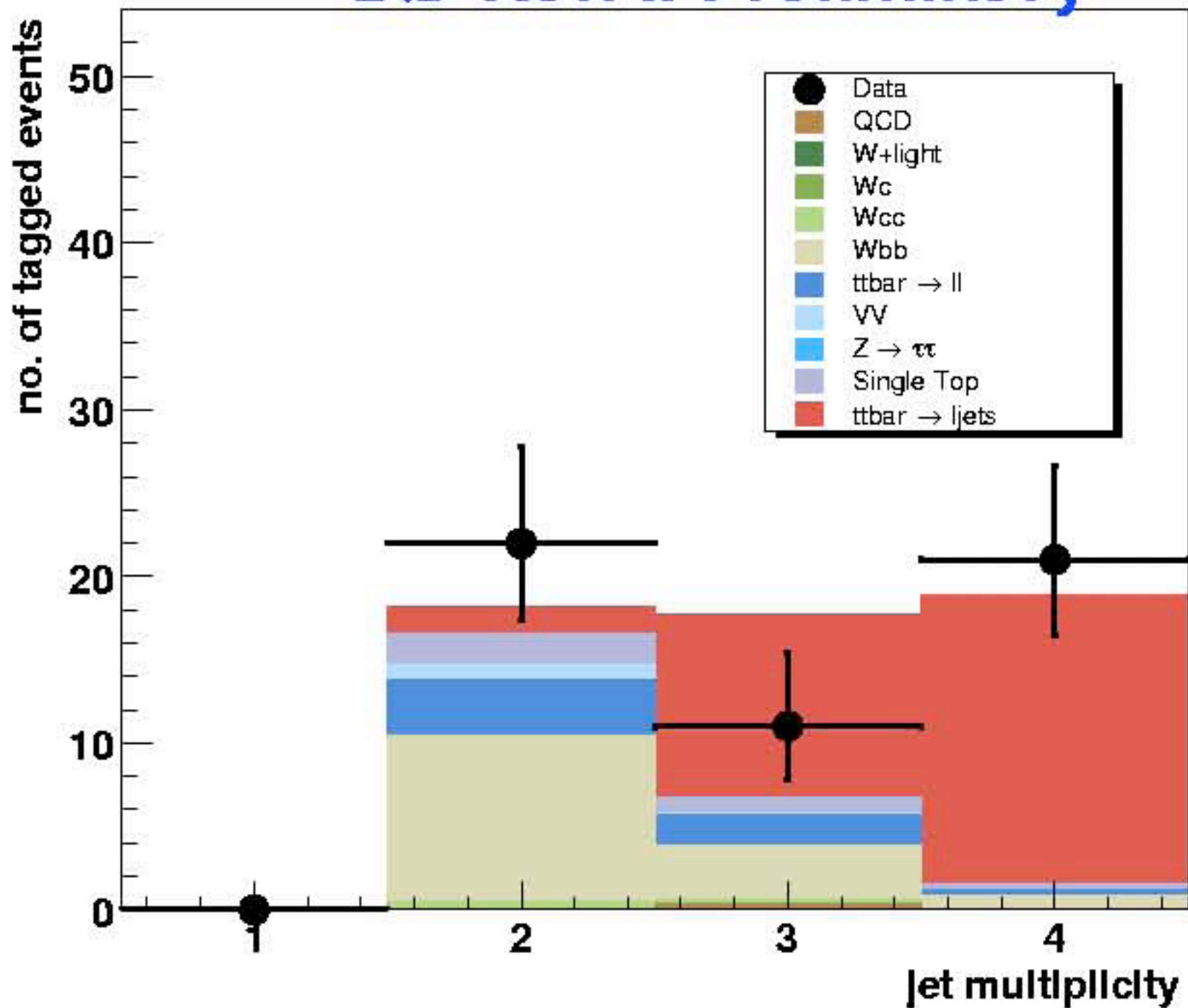


- _MUON
- _ELEC
- _TAUS
- _VEES
- _OTHER

DØ Run II Preliminary

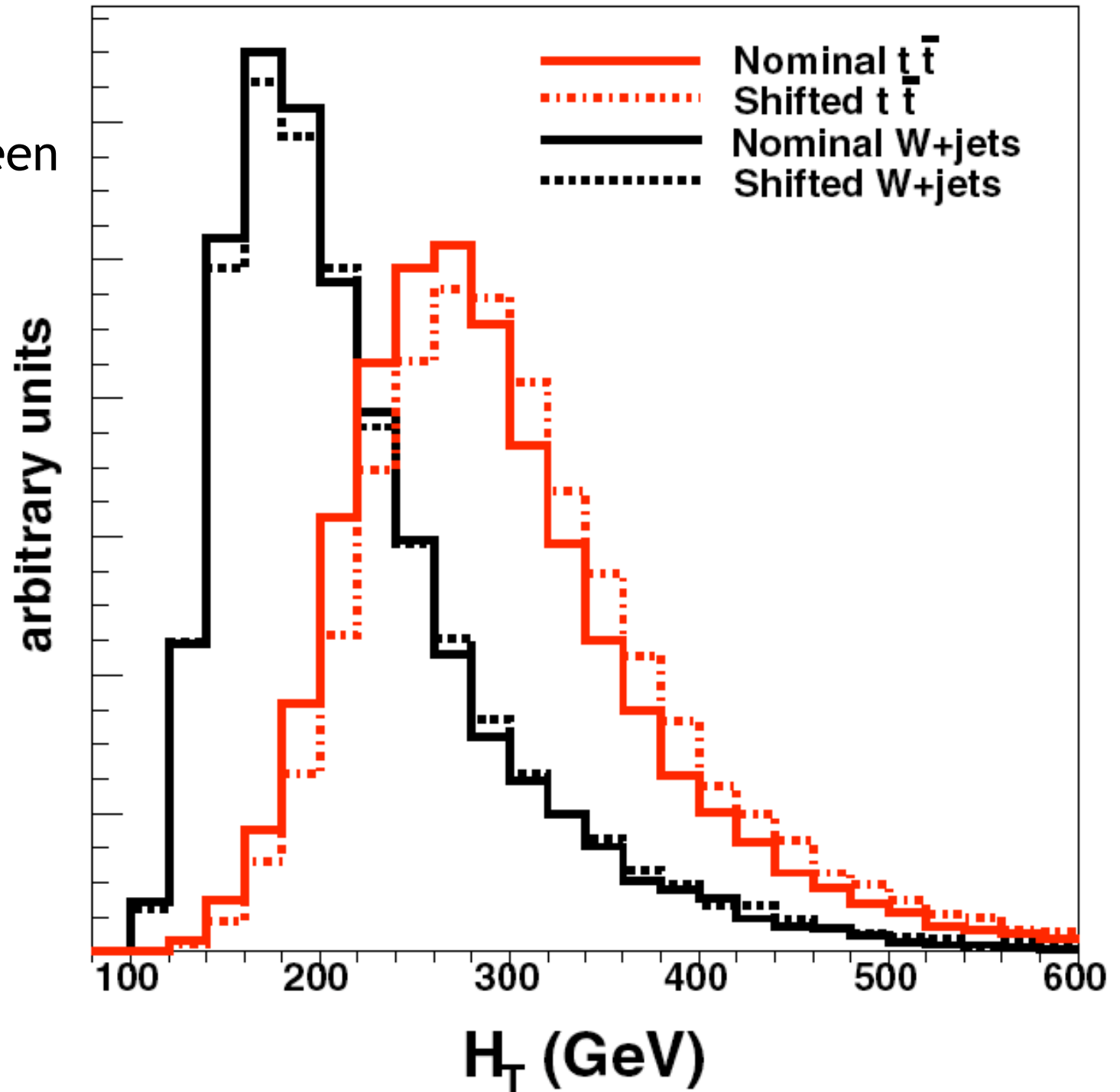


DØ Run II Preliminary

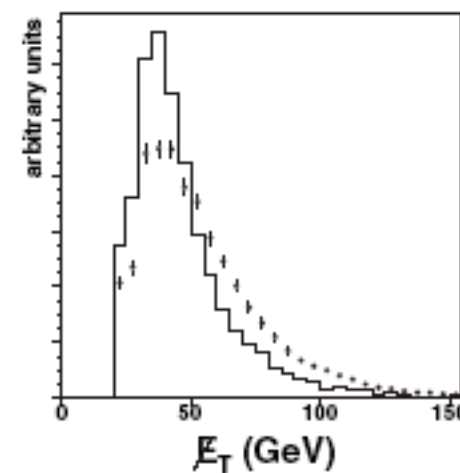
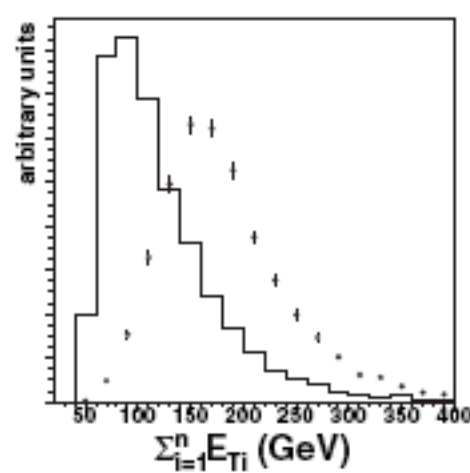
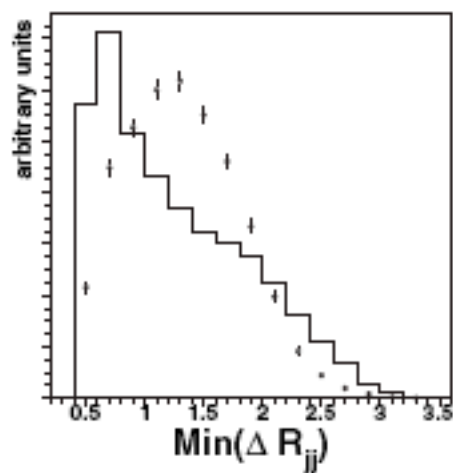
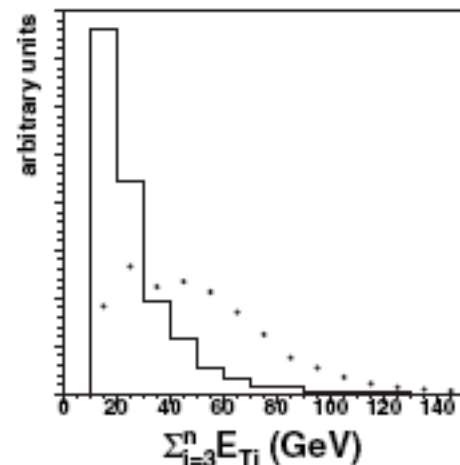
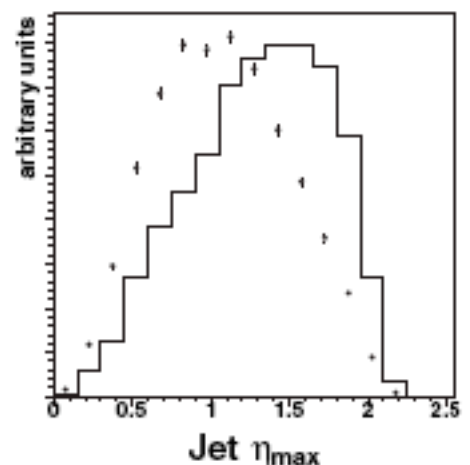
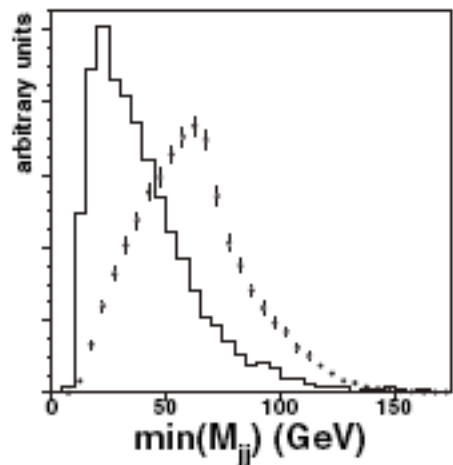
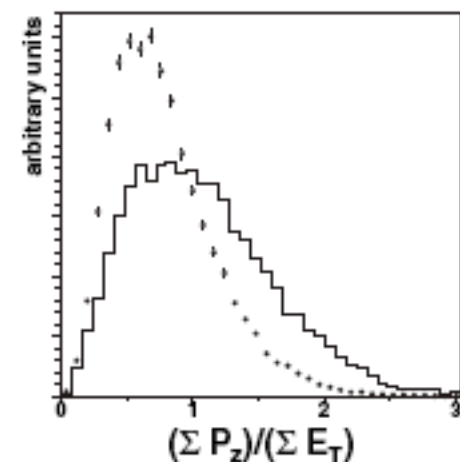
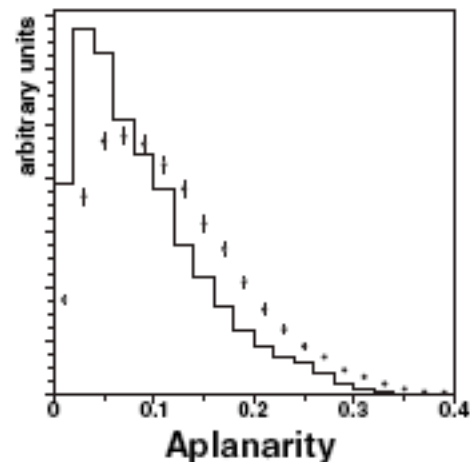
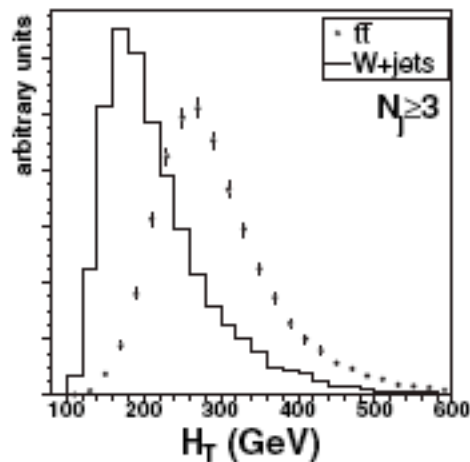


CDF

Comparison of HT distributions between ttbar and W + jets events

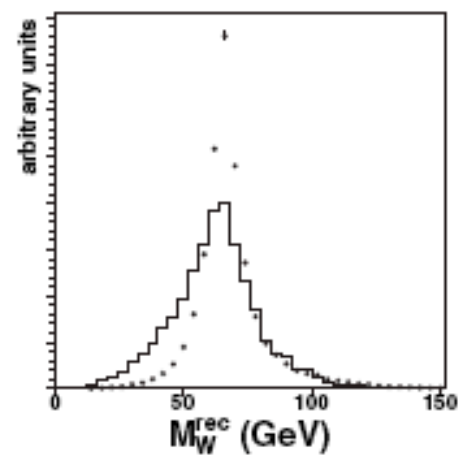
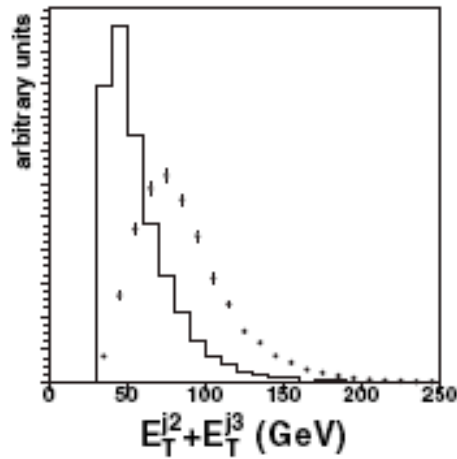
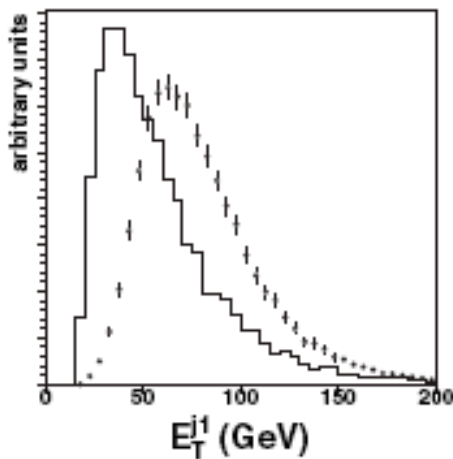
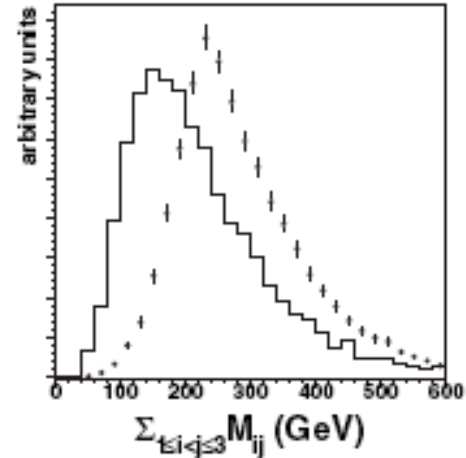
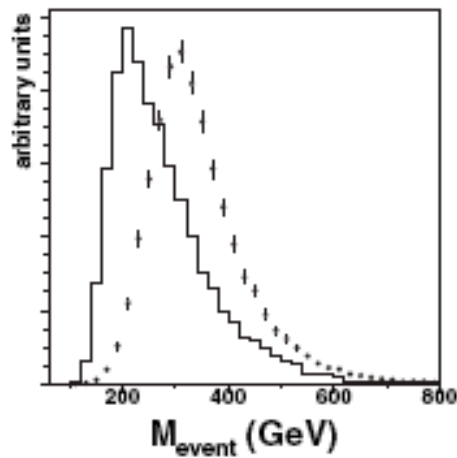
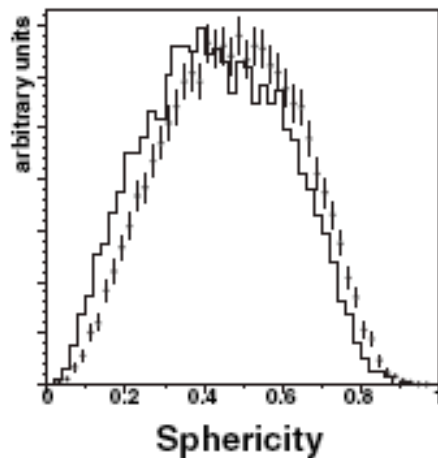


ttbar/W+jets
 shape
 comparisons
 for 9
 kinematic
 observables.

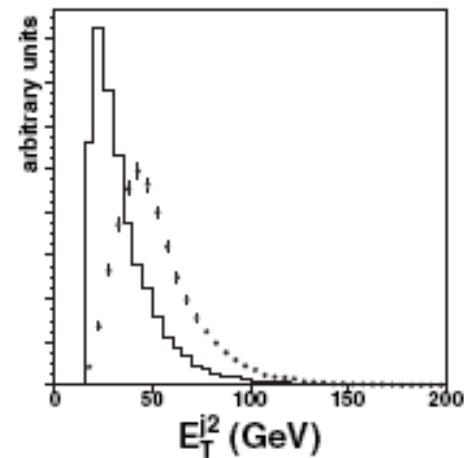
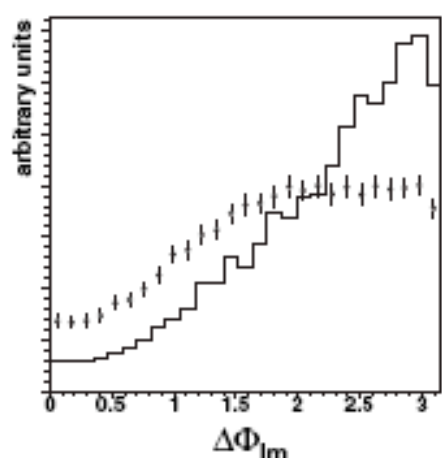
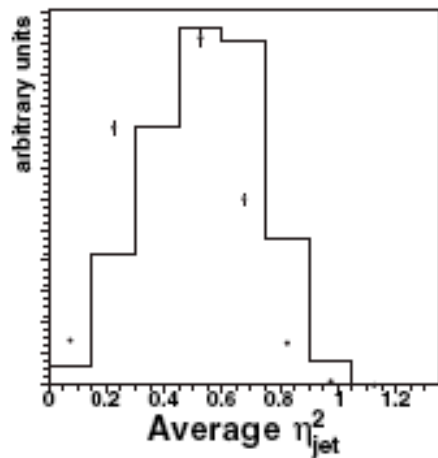


CDF

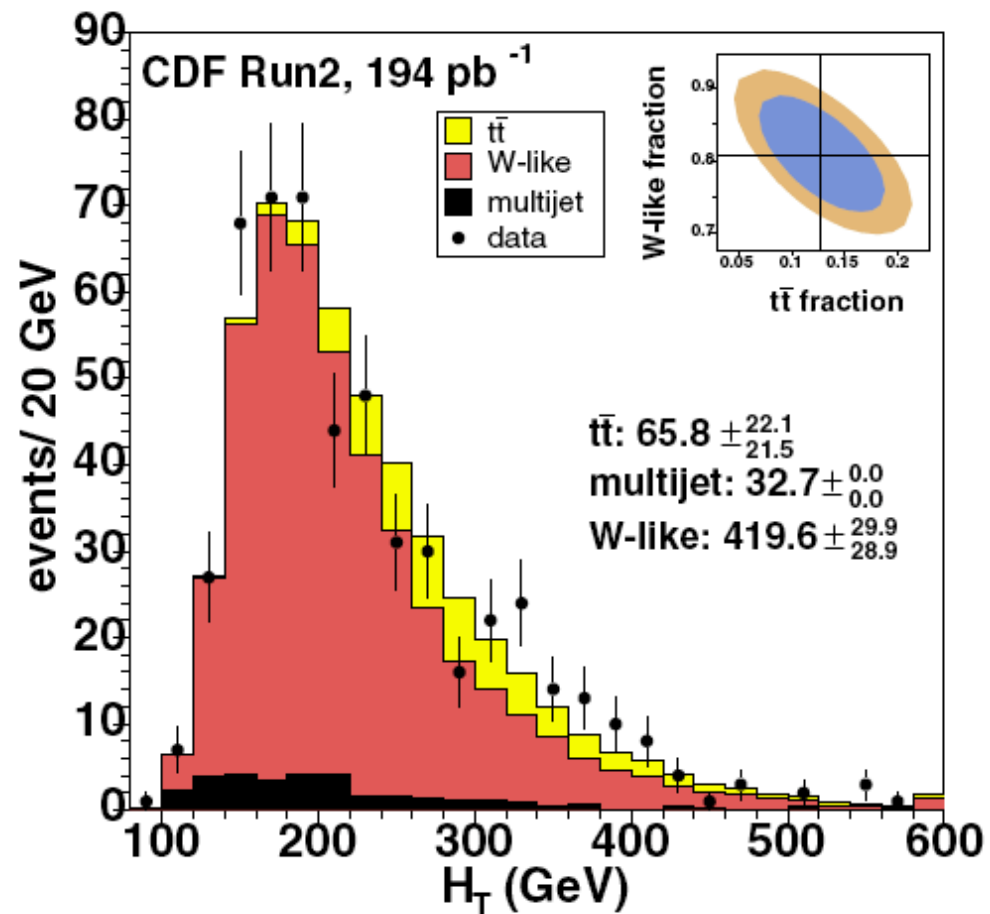
$t\bar{t}$ /W+jets
shape
comparisons
for 9 more
kinematic
observables.



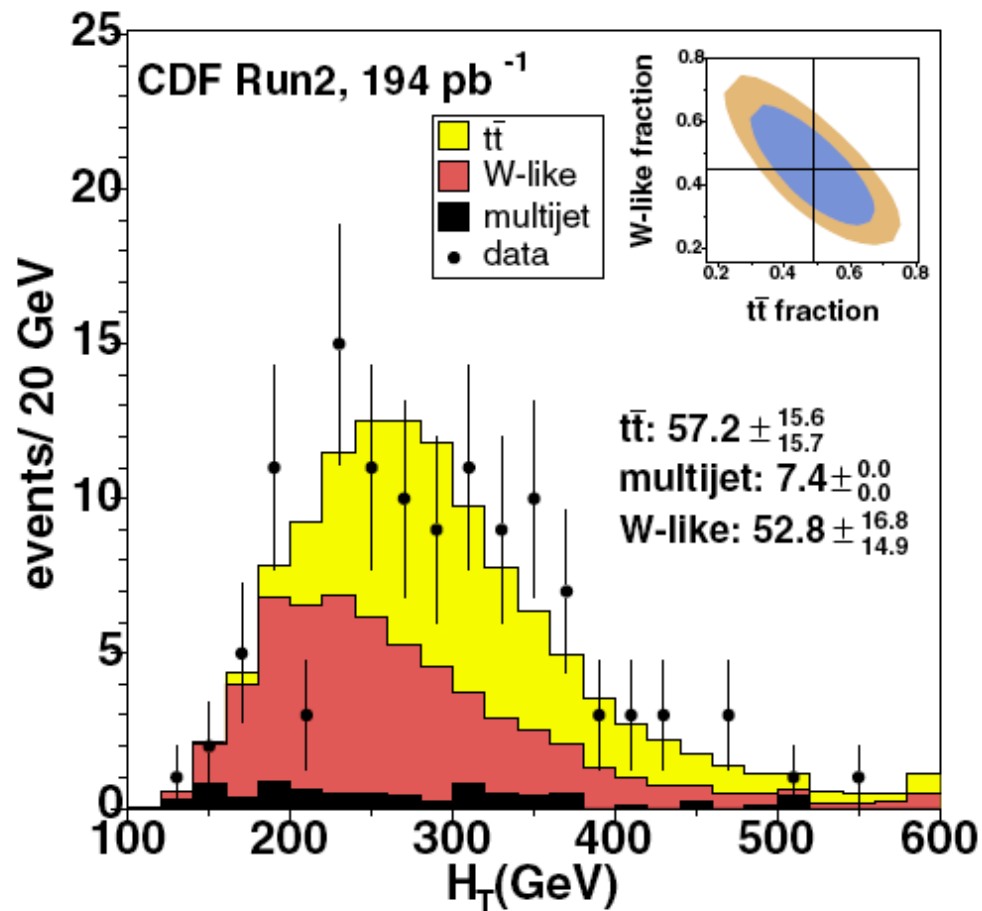
CDF



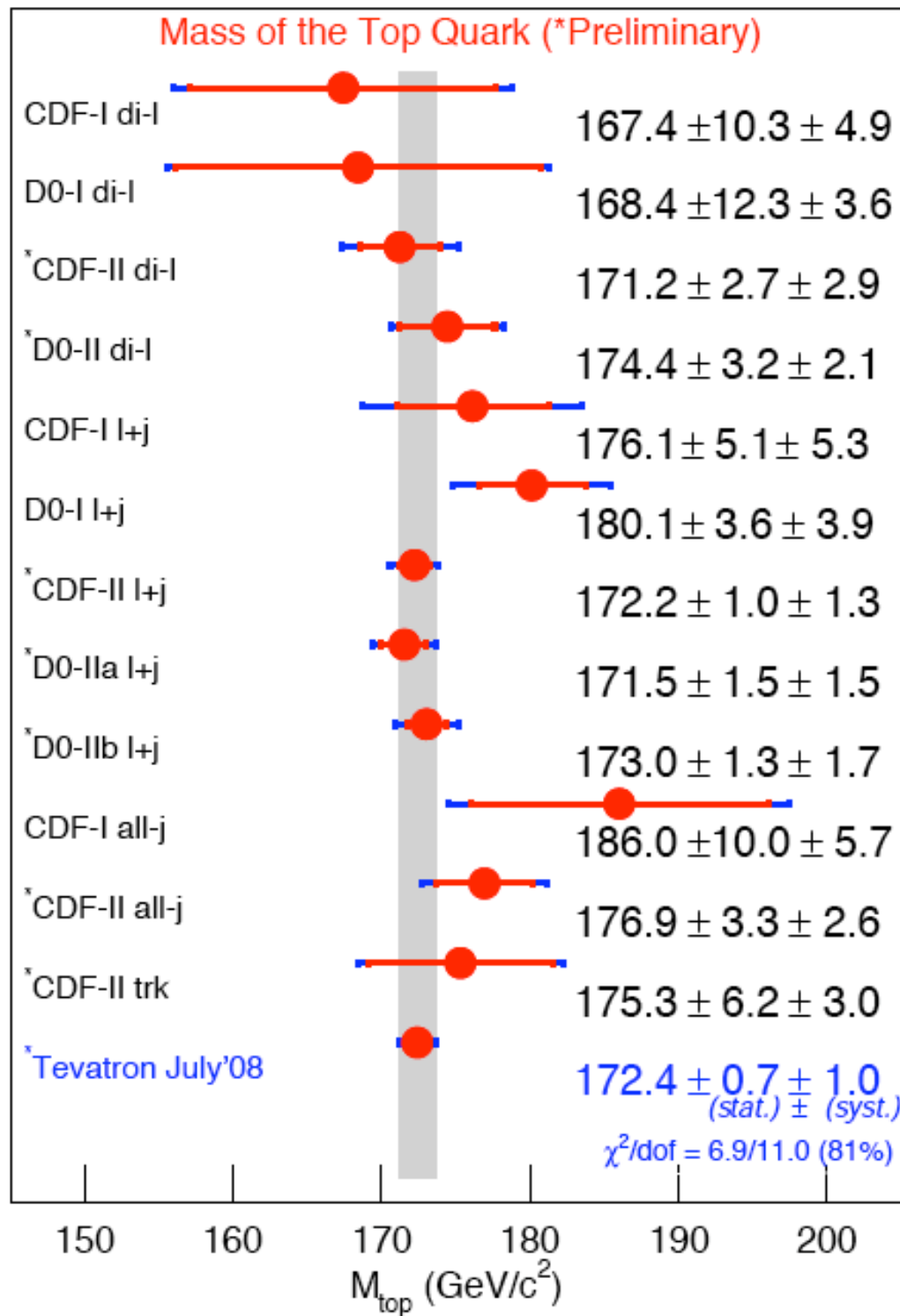
W+3 jets



W + 4 jets

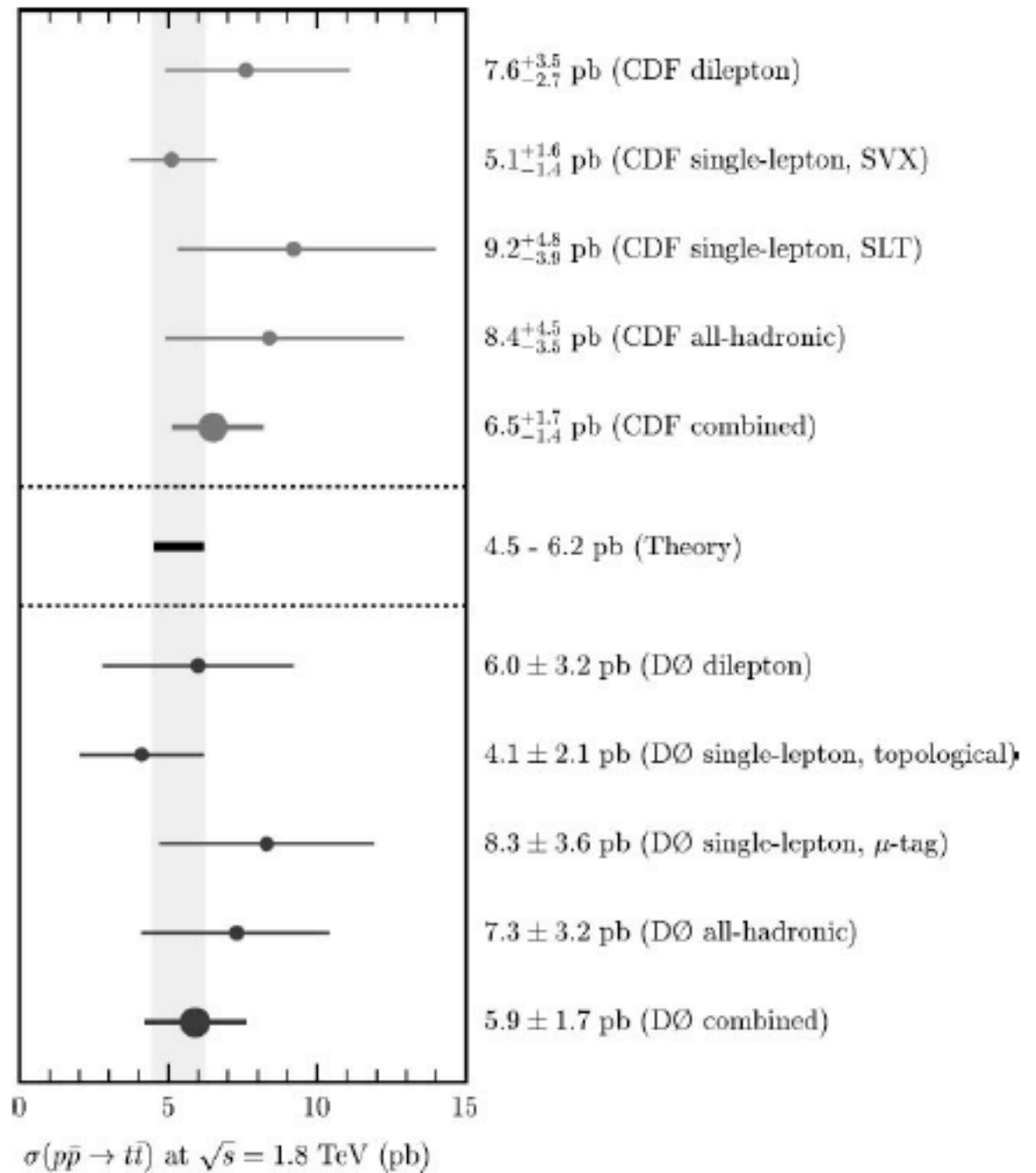


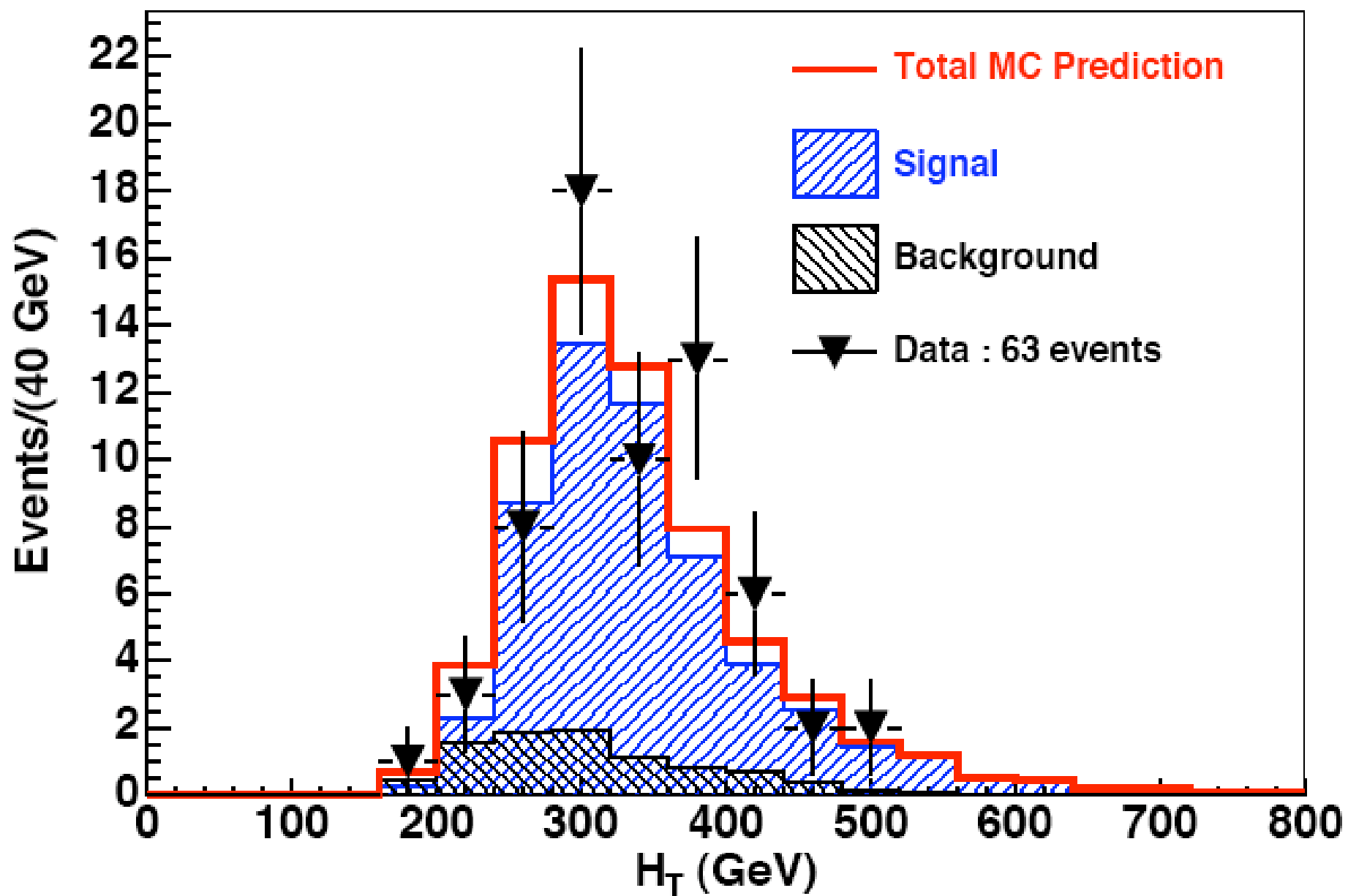
$$H_T = \cancel{E}_T + E_{T\ell} + \sum_i E_{Ti}$$



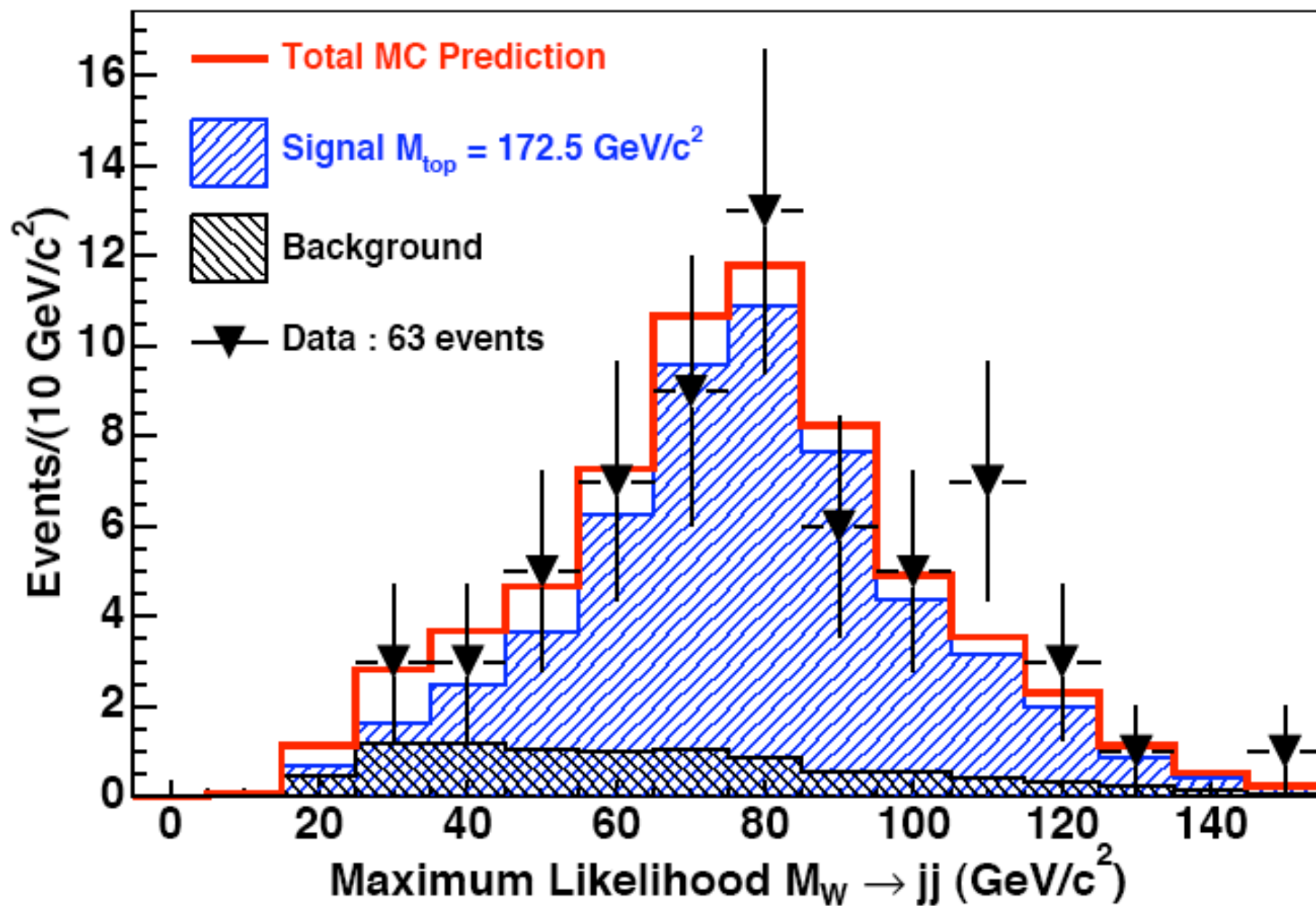
CDF and DO measurements of the $t\bar{t}$ production cross section

Chakraborty,
Konigsberg,
Rainwater
review

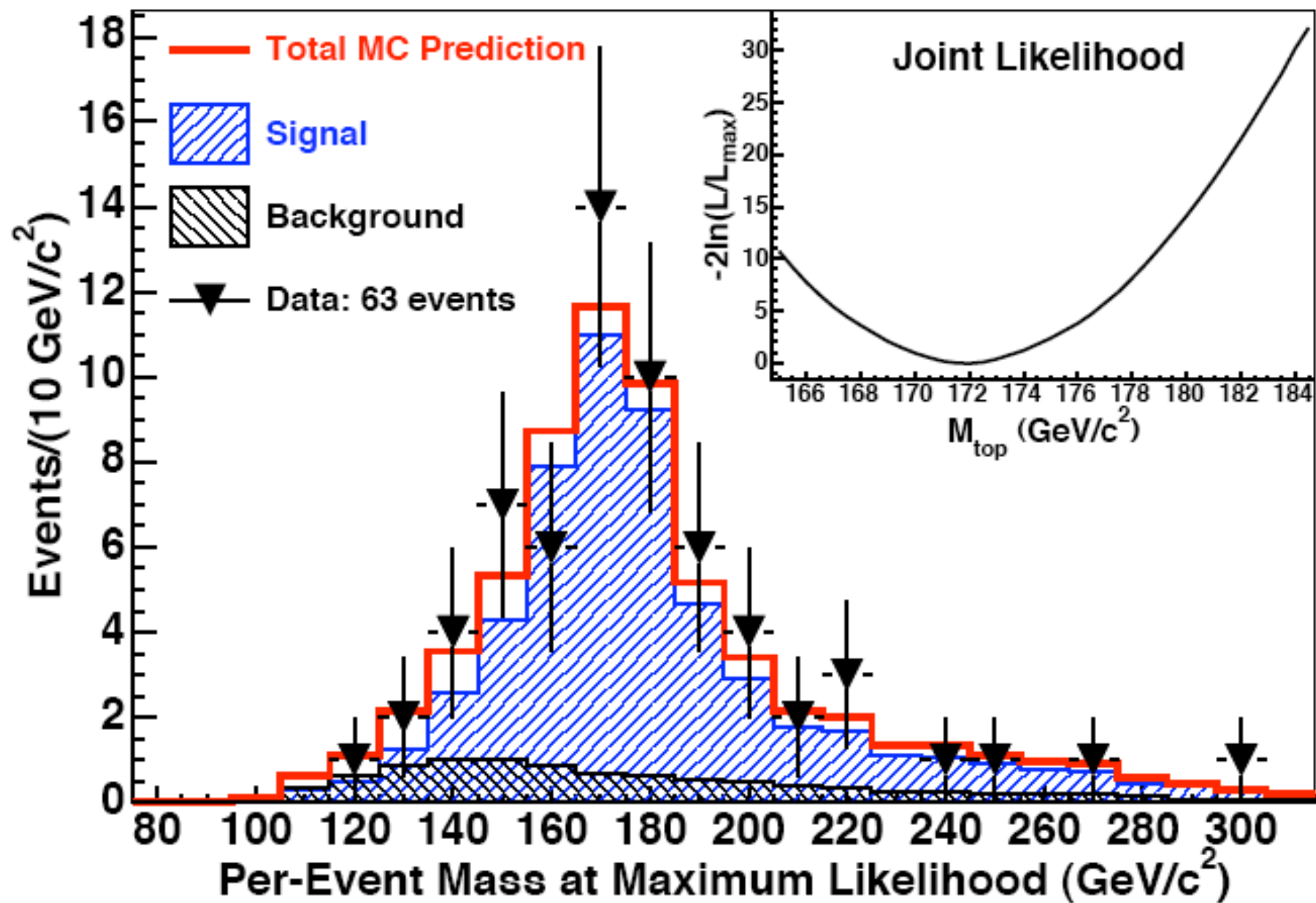




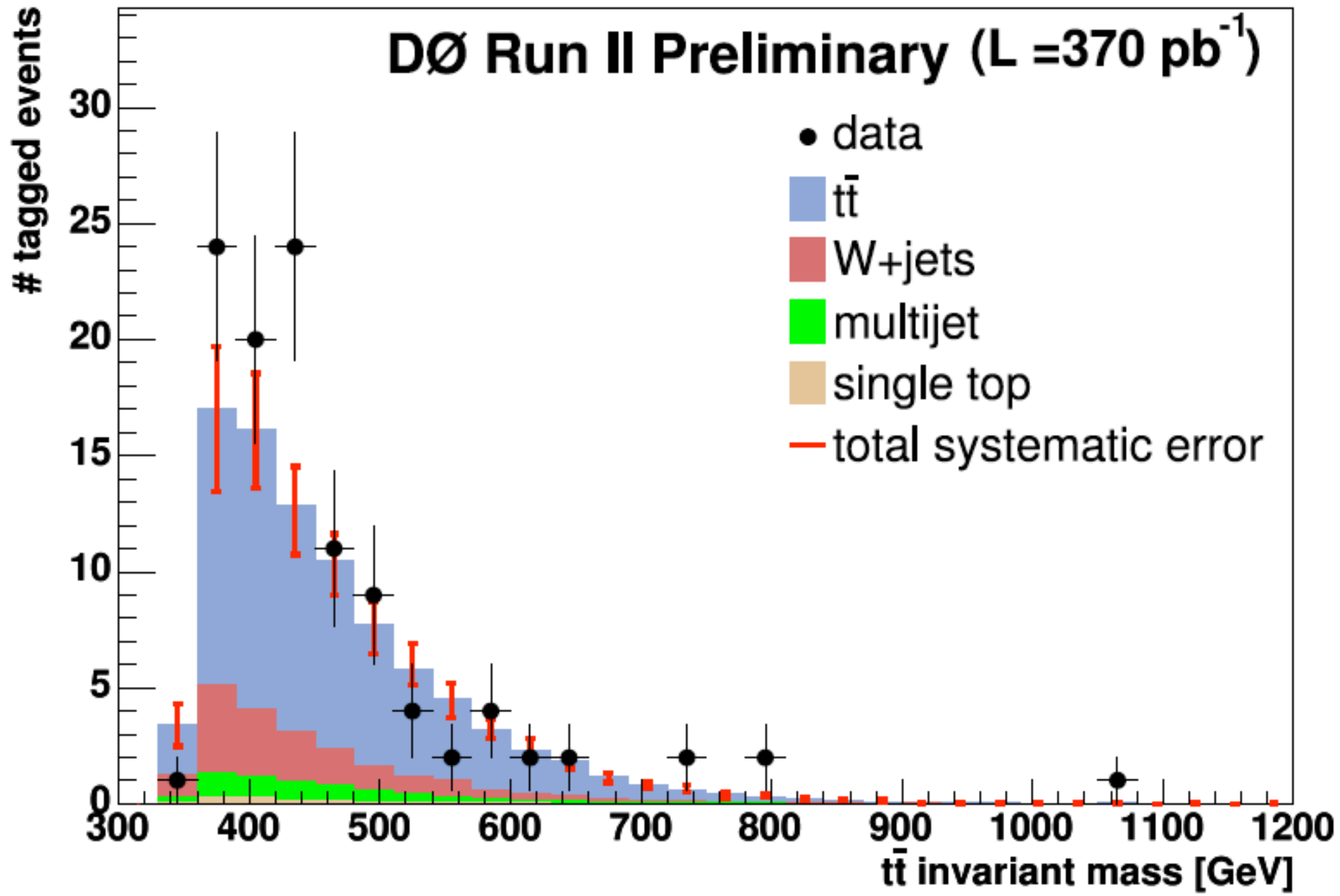
CDF

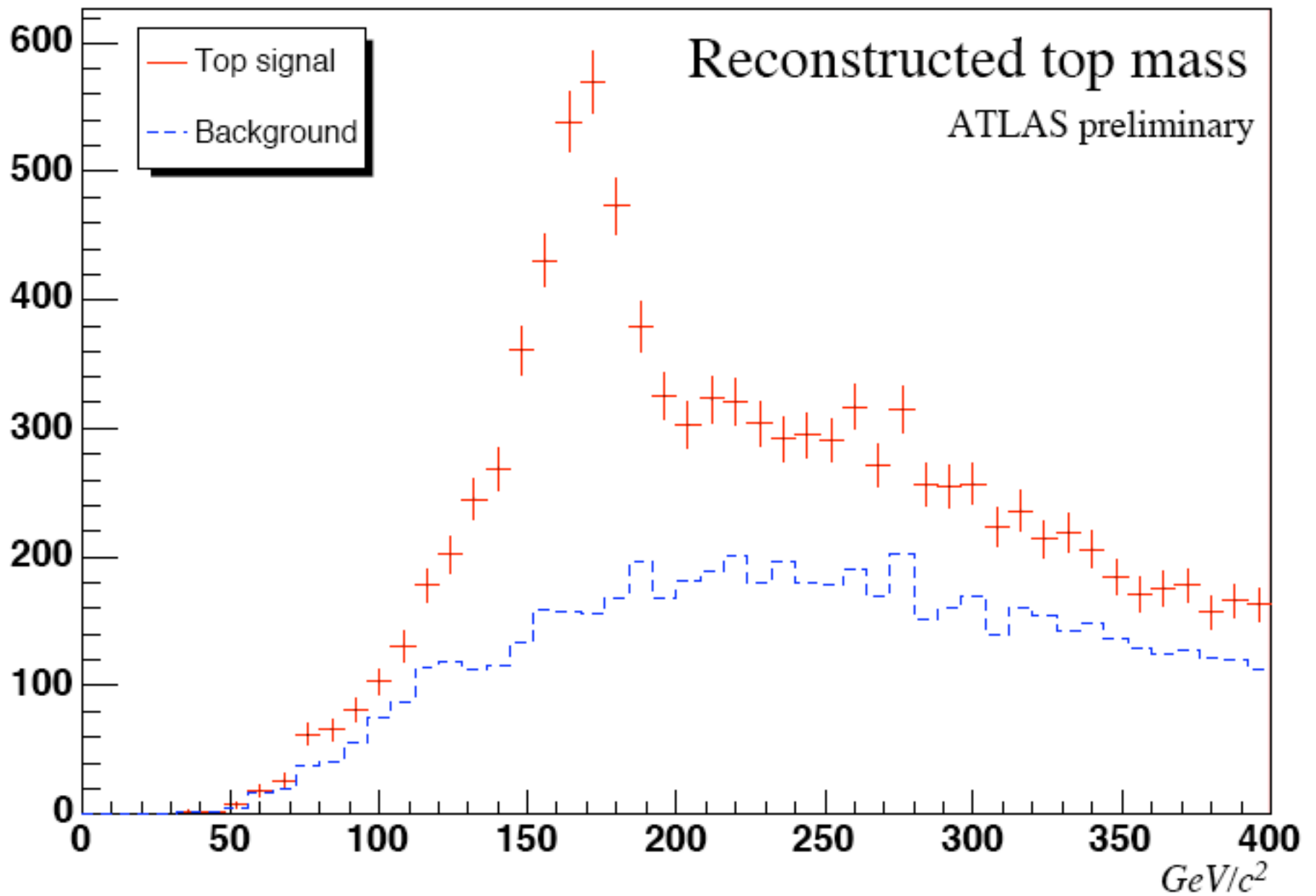


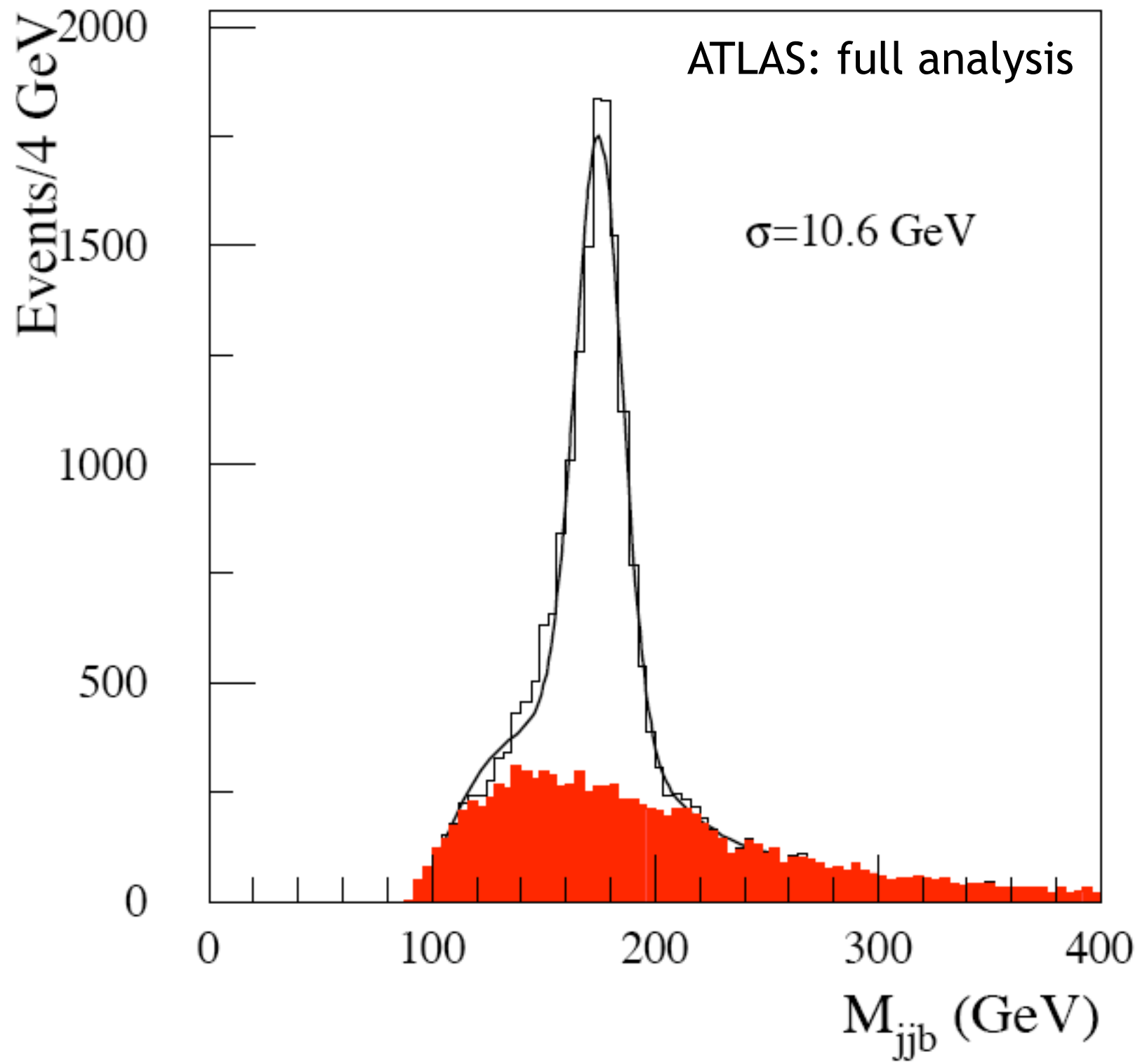
CDF



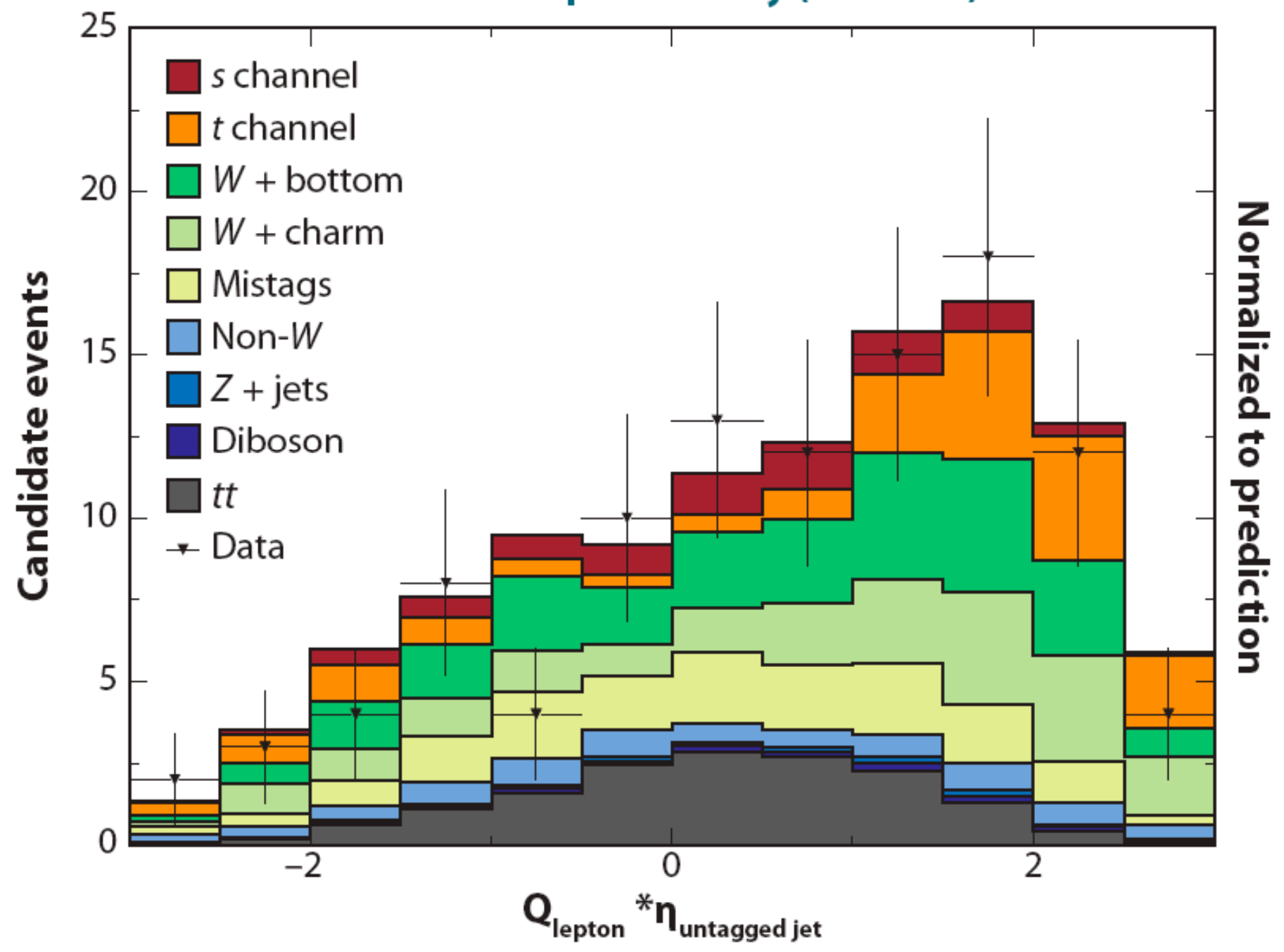
DØ Run II Preliminary (L = 370 pb⁻¹)

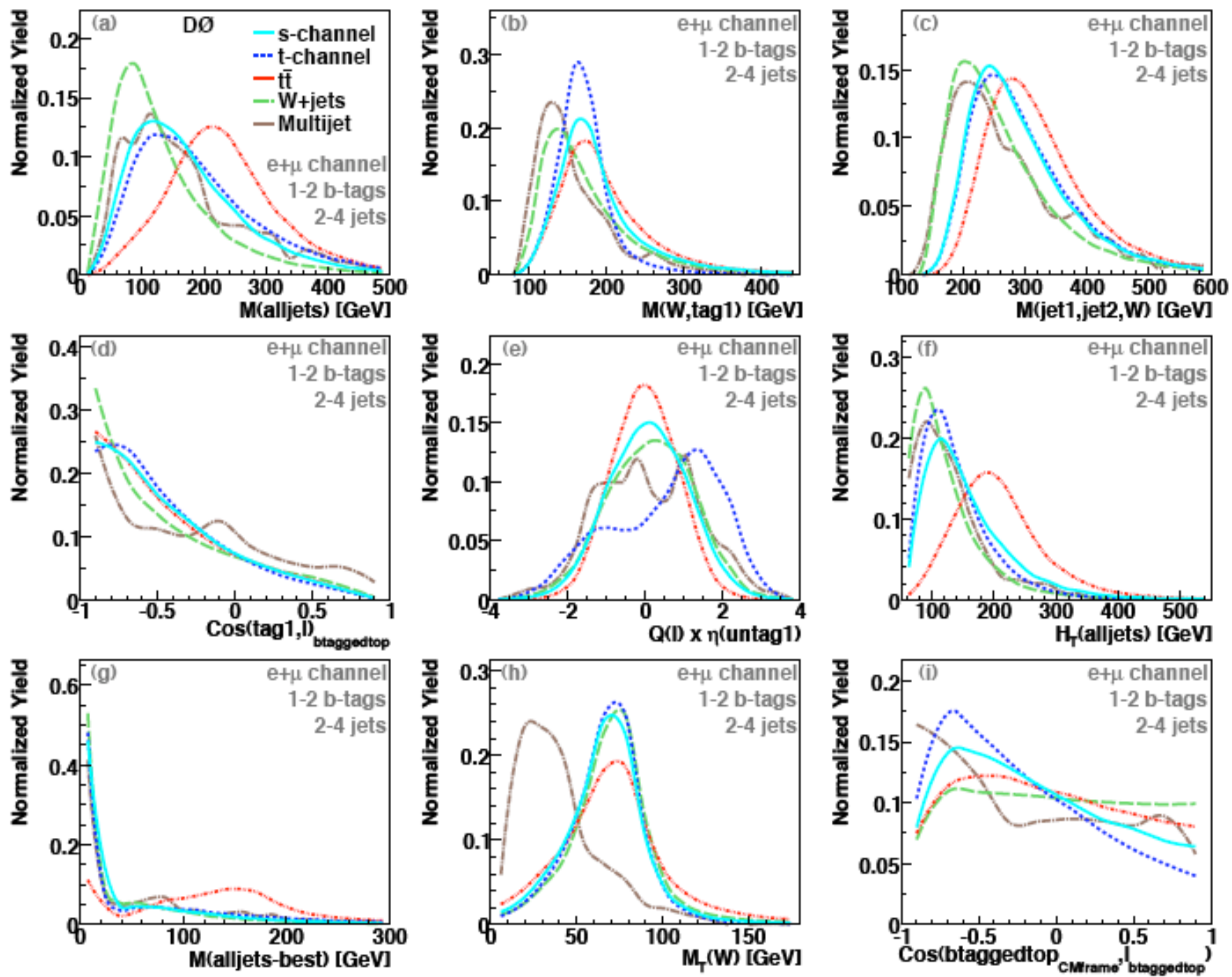


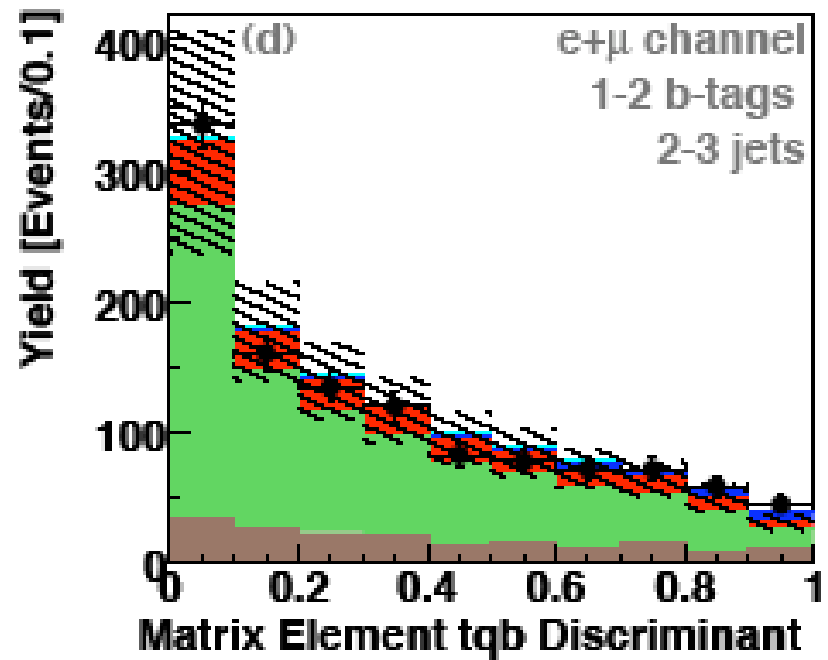
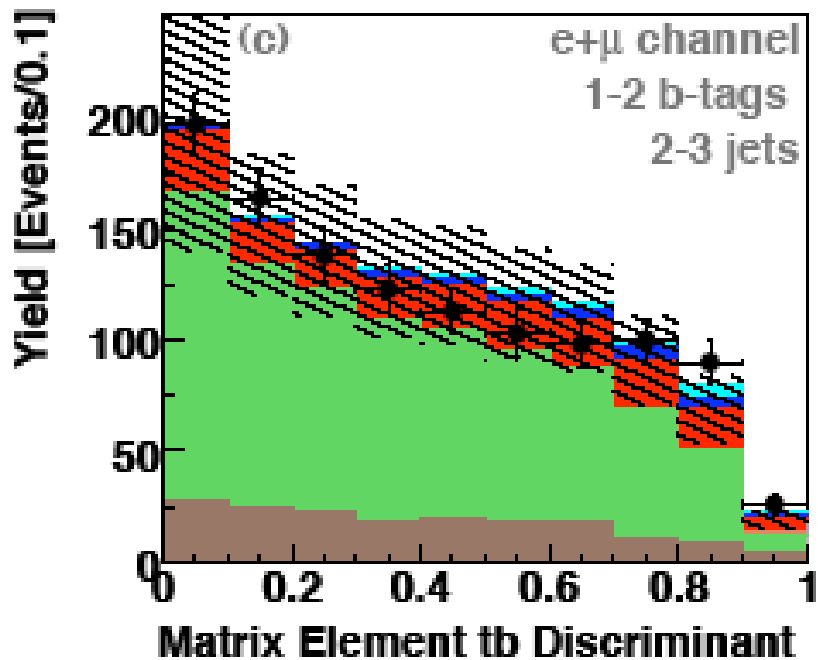
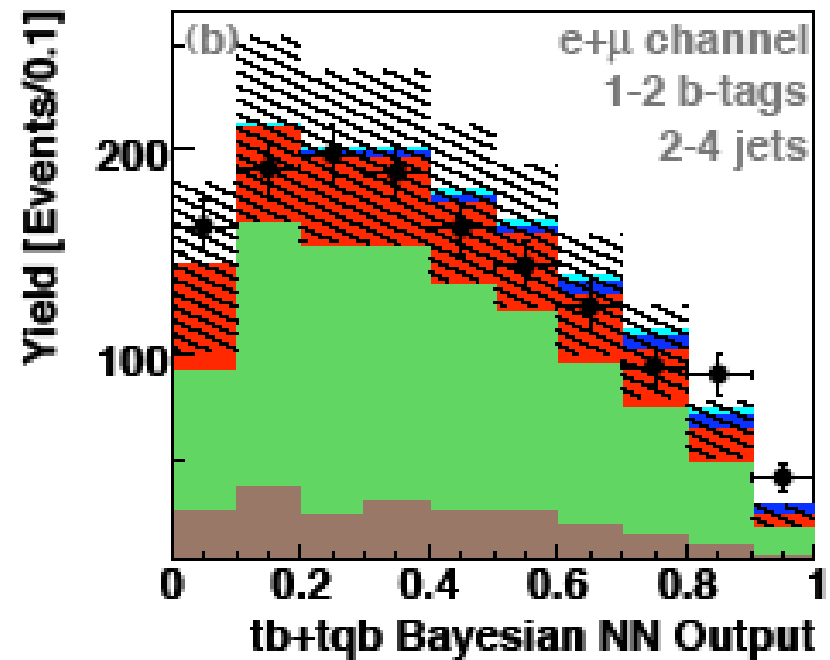
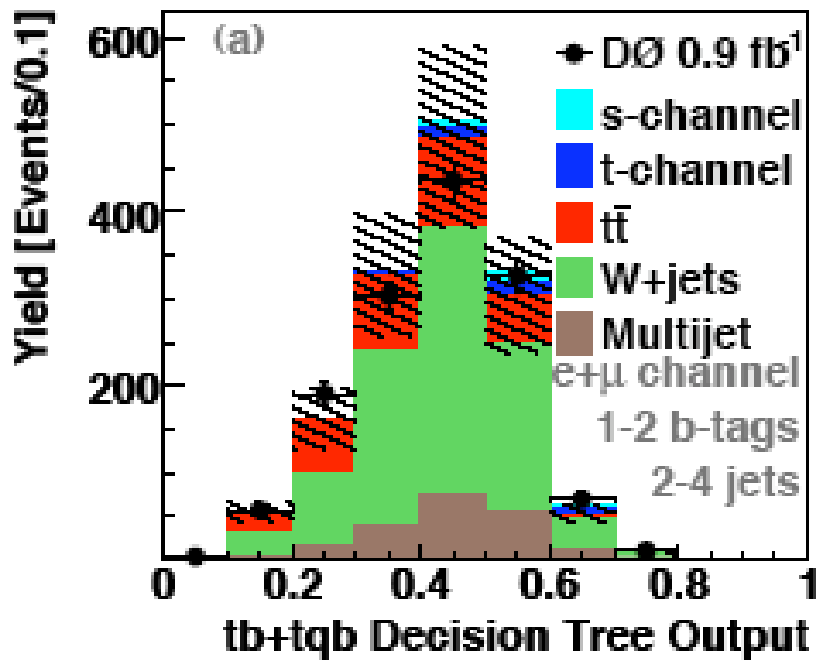


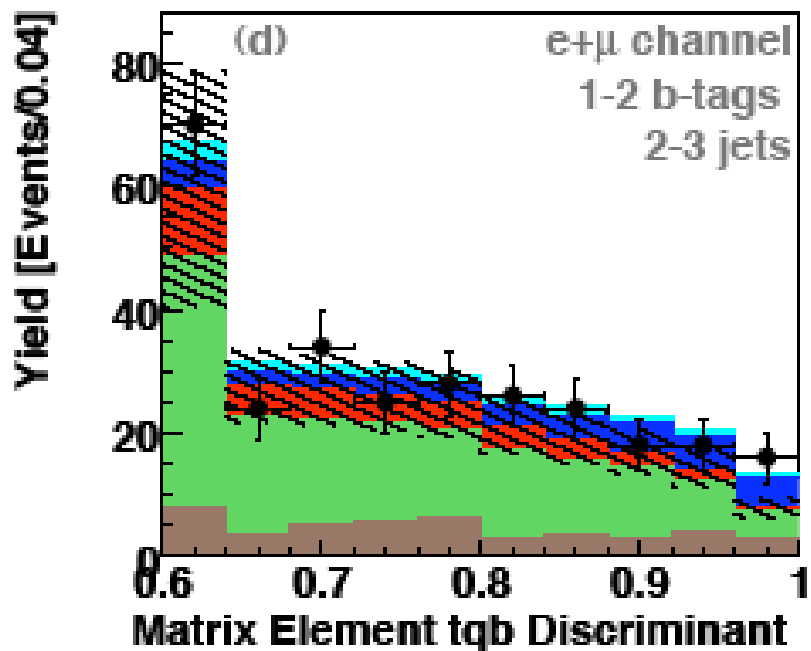
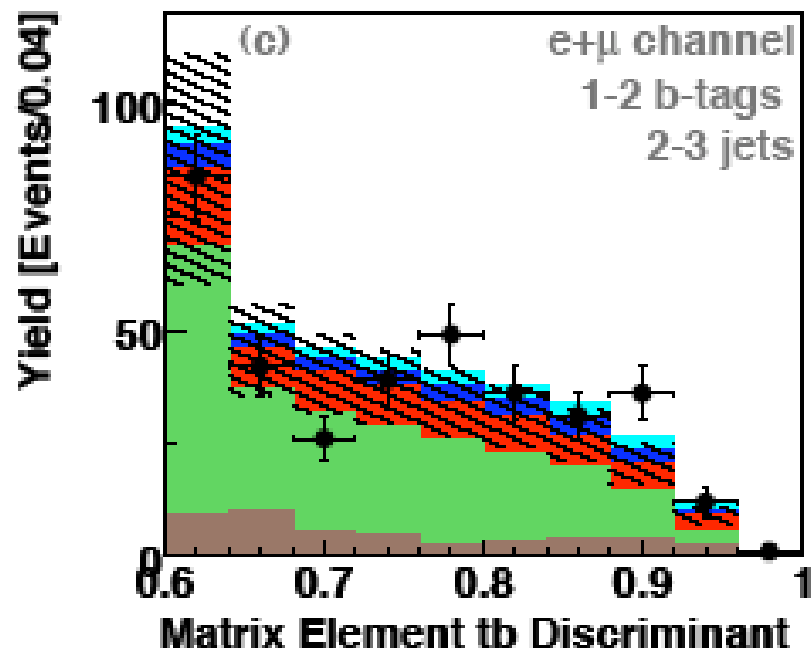
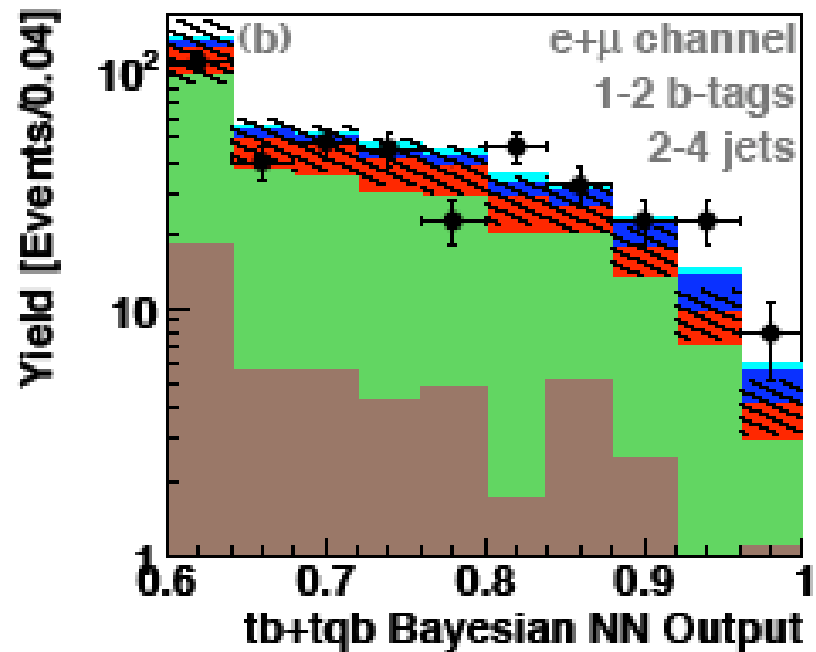
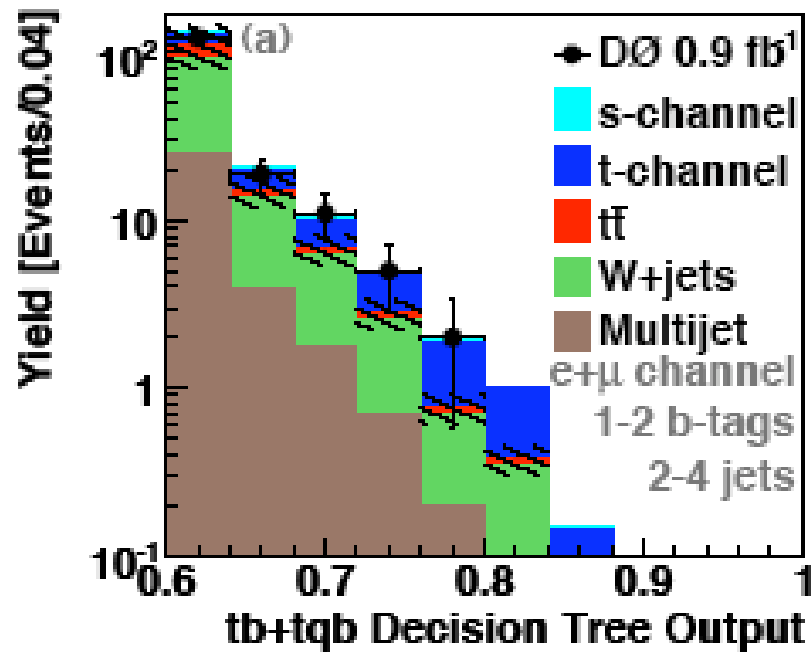


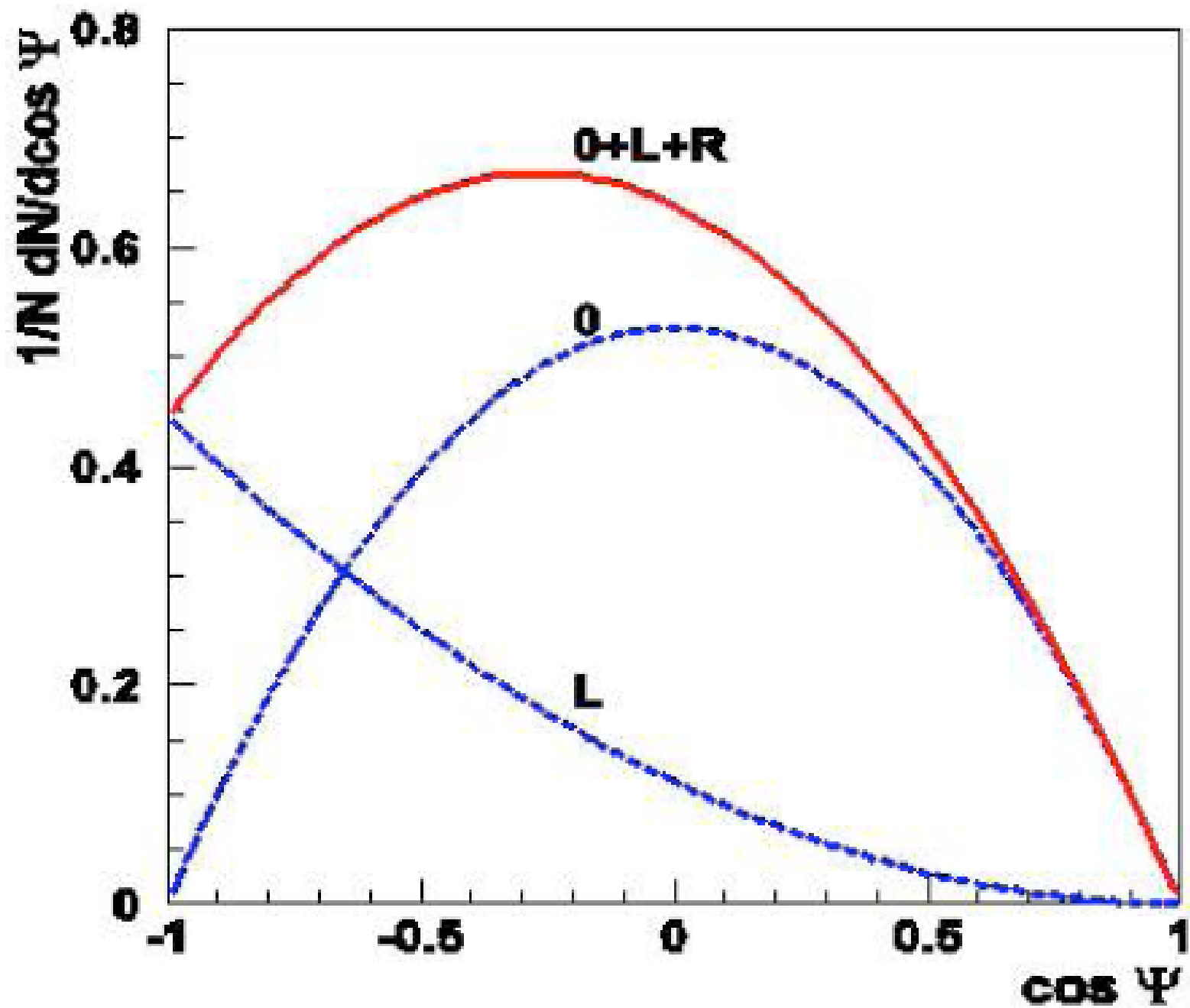
CDF run II preliminary (1.51 fb⁻¹)



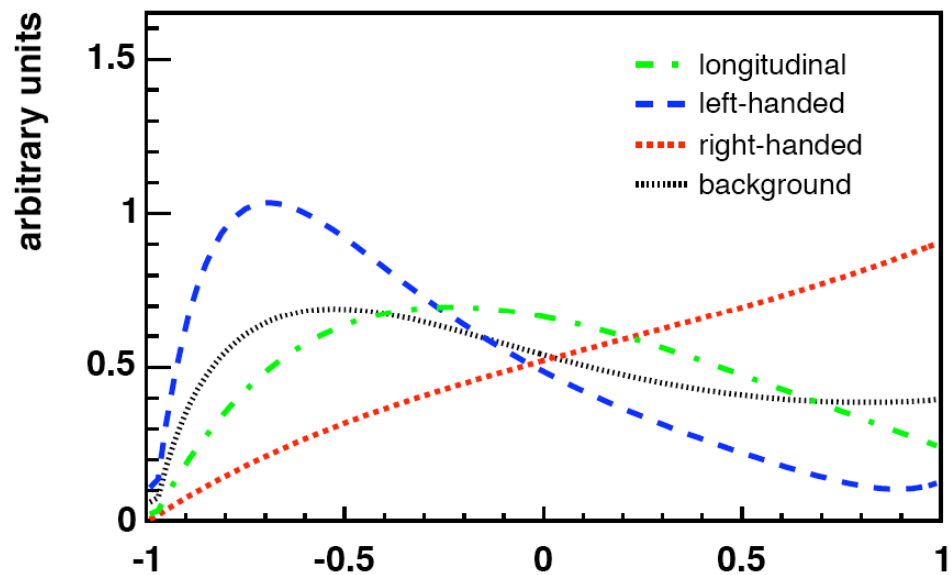




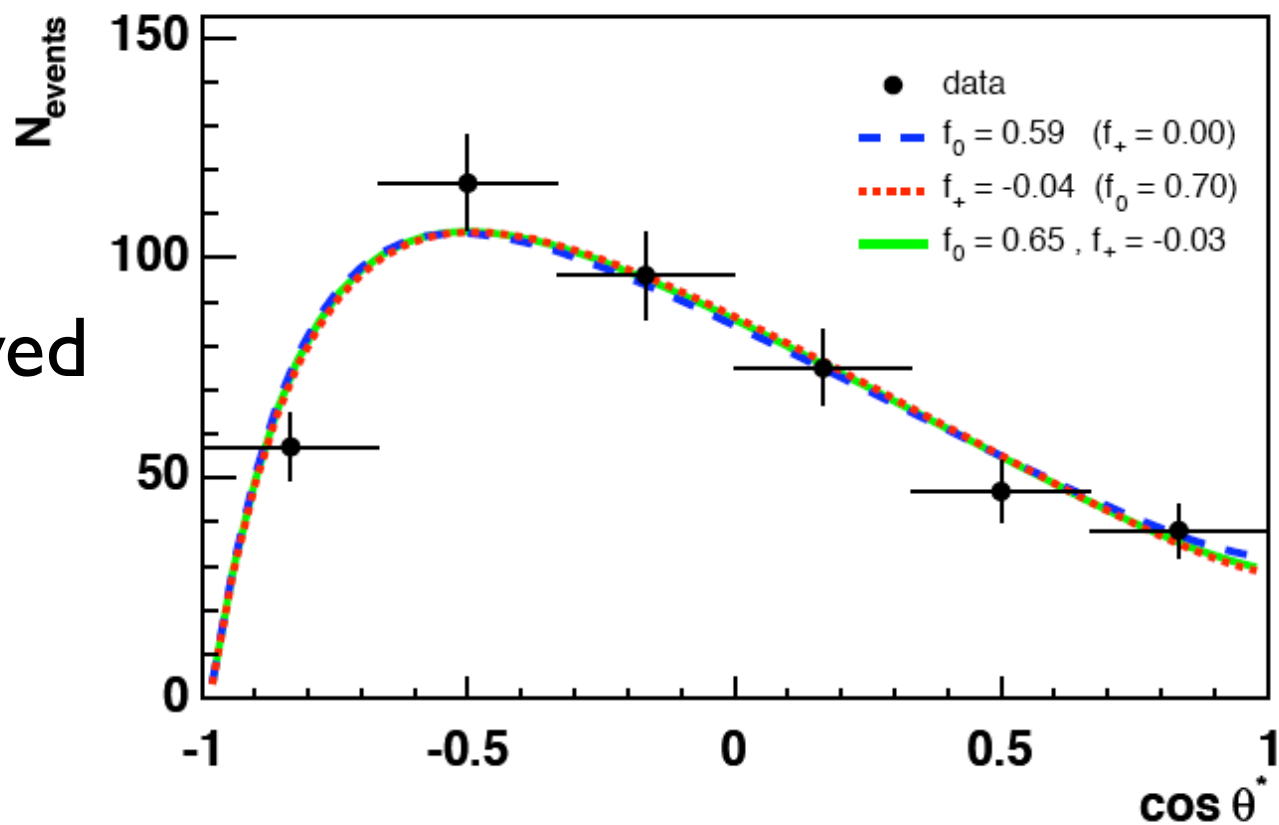




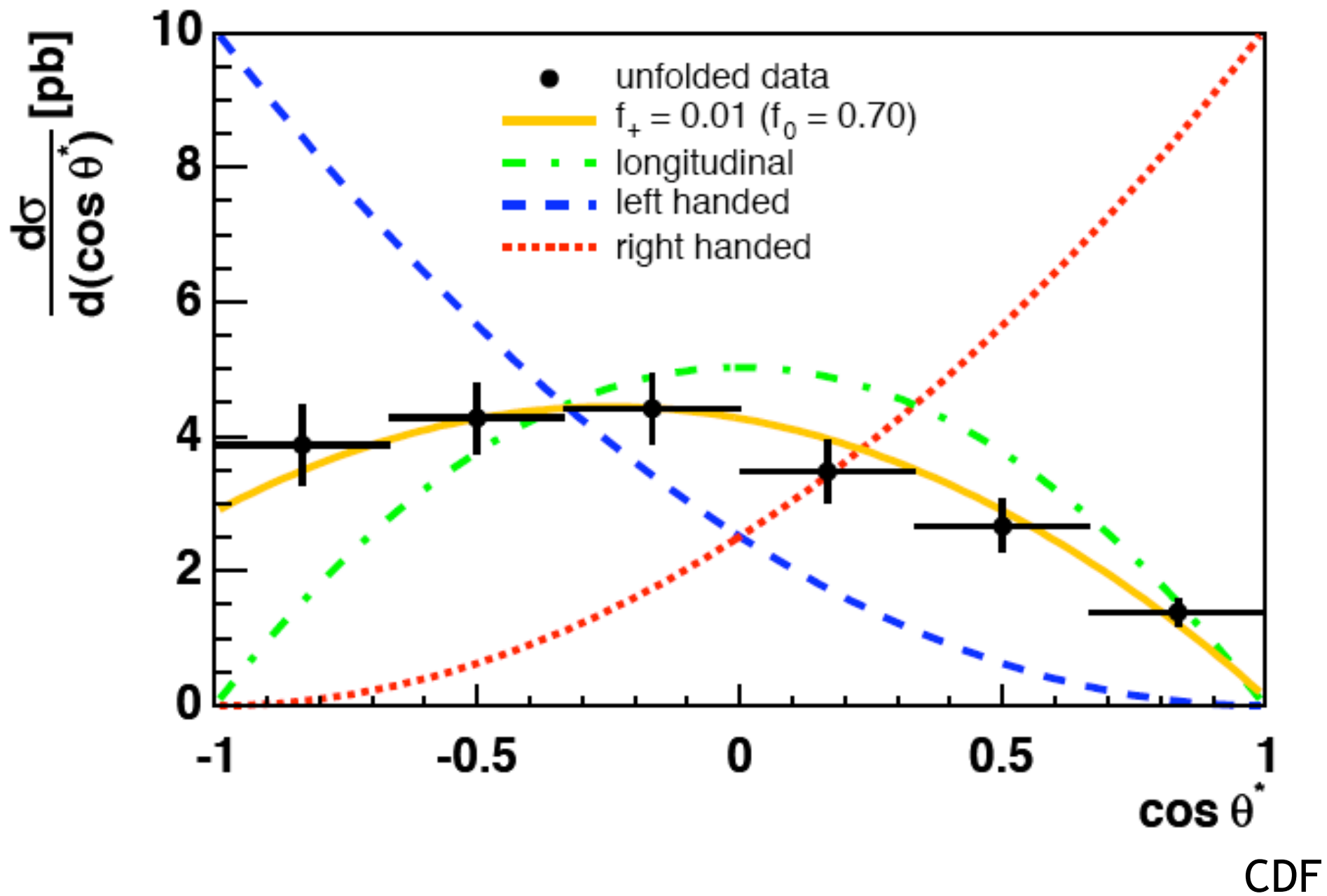
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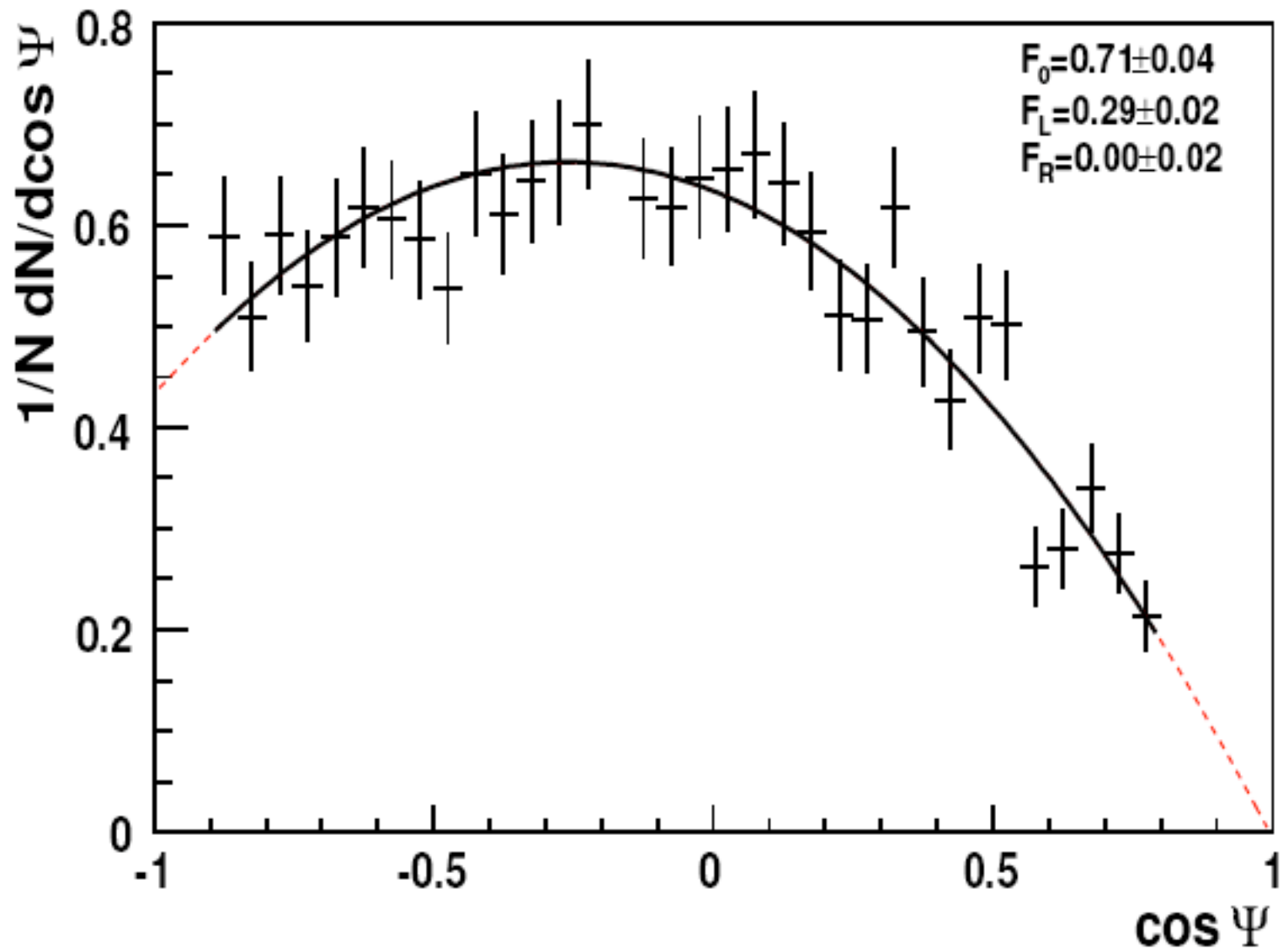


observed



CDF





ATLAS expectation