p16.01.00 Certification of the L3 Tau Tool with NN

L3 Meeting

24th February, 2004

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University of Nijmegen

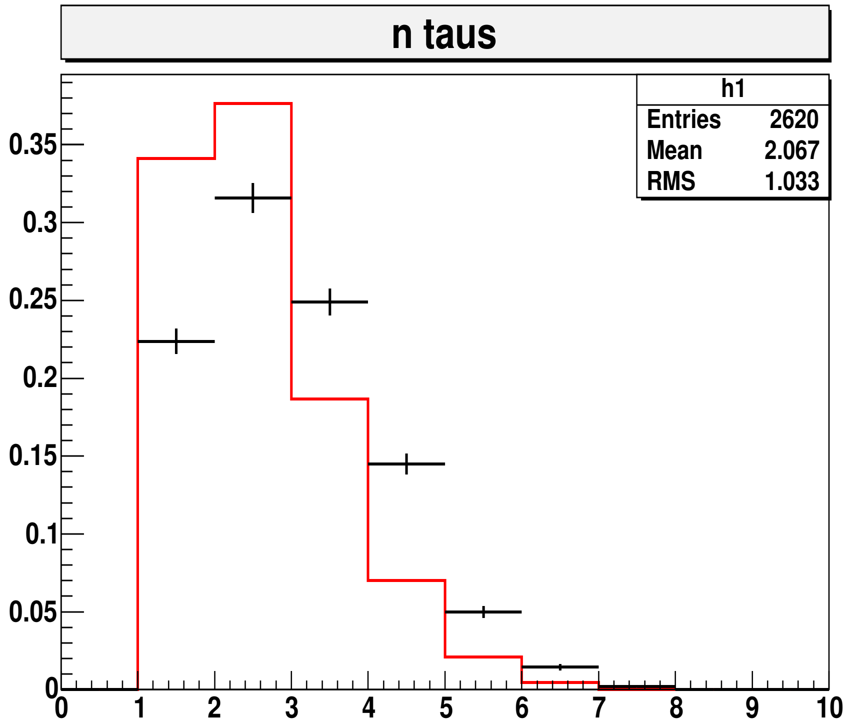
p15.06.01 vs p16.01.00

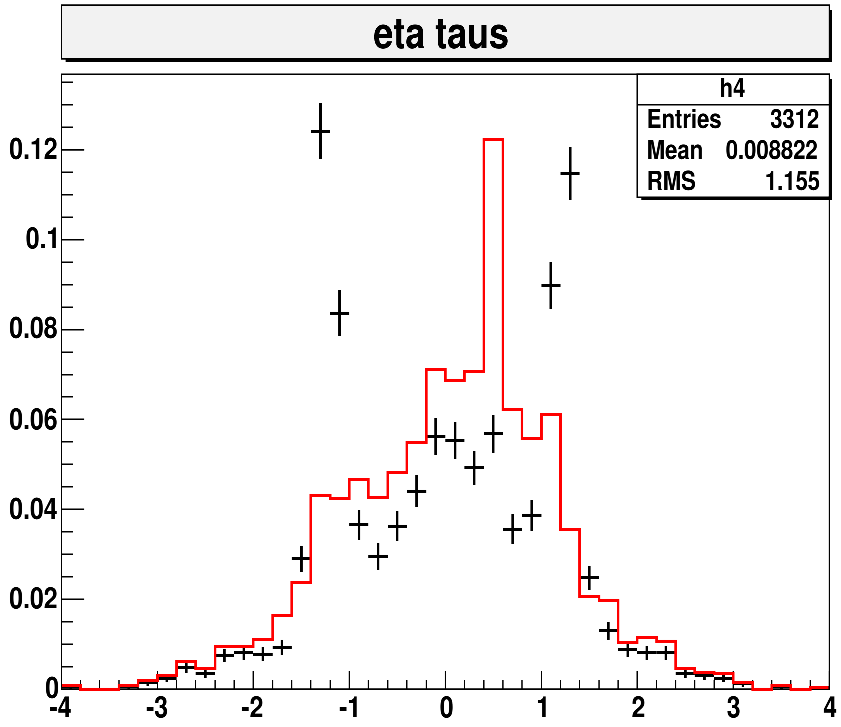
– I used 2000 MC events W$\rightarrow \tau\nu$ (p13.08.00), 9013 events "old data" from Run 179618 (pre-shutdown) and 2702 events "new data" from Run 188672 (post-shutdown)

– I compared

- the MC trigsimed with p15.06.01 with same sample in p16.01.00
- old and new data running the same Tau tool (NN_BASED)
- new data - online and offline

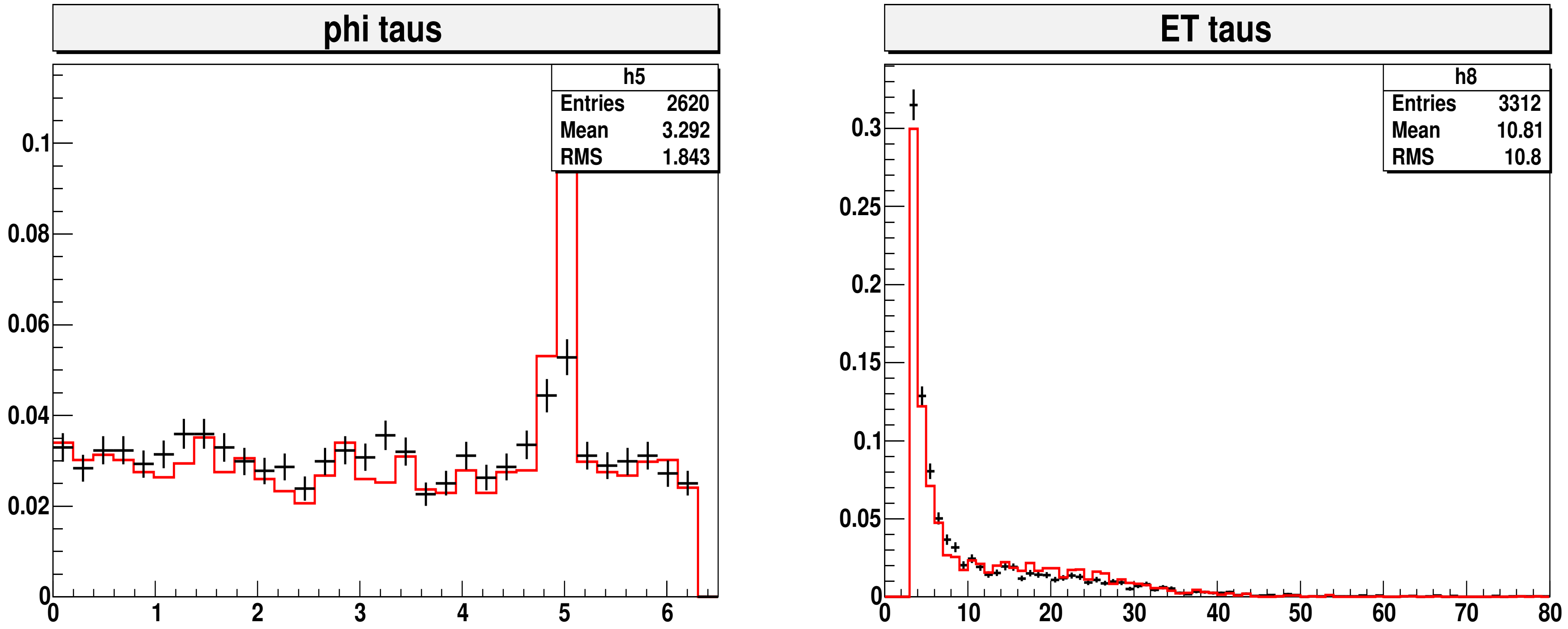
MC p15.06.01 vs MC p16.01.00





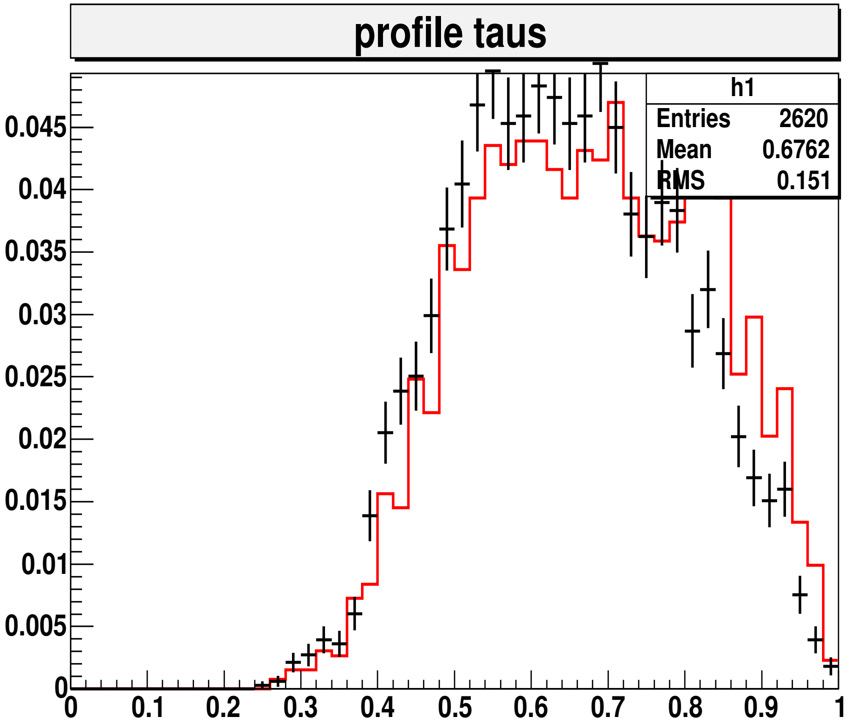
- red: MC taus p15.06.01 (NN_BASED algo, nn_cut = 0.1)
- black: MC taus (same sample) p16.01.00 (same algo, cuts, etc)

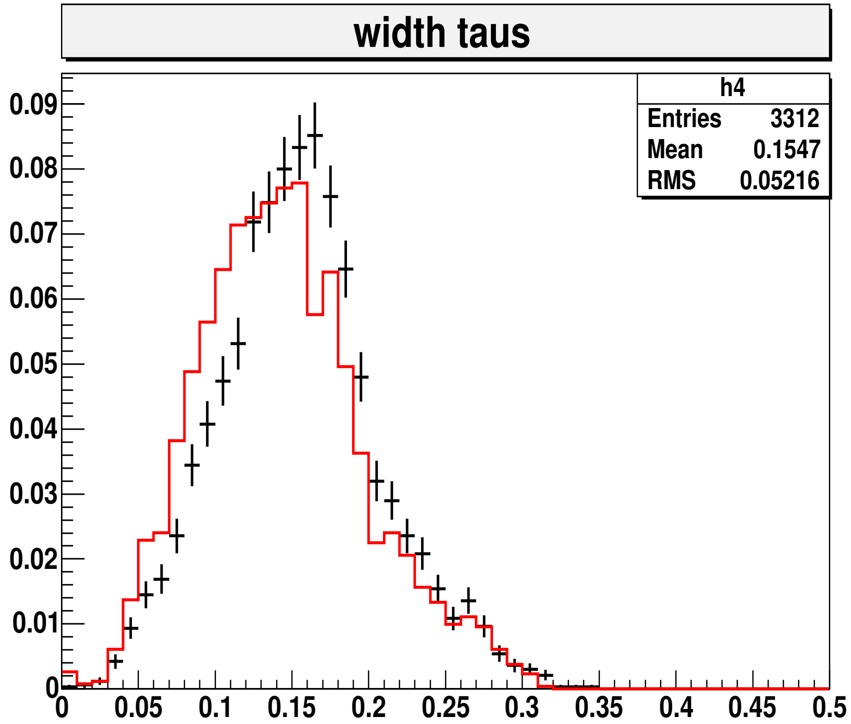
MC p15.06.01 vs MC p16.01.00 (continued)

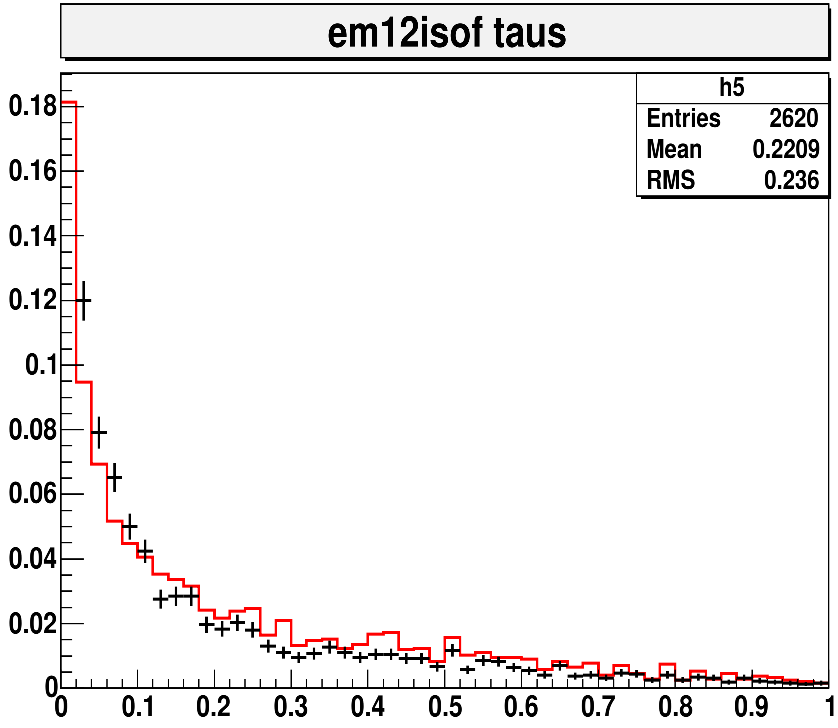


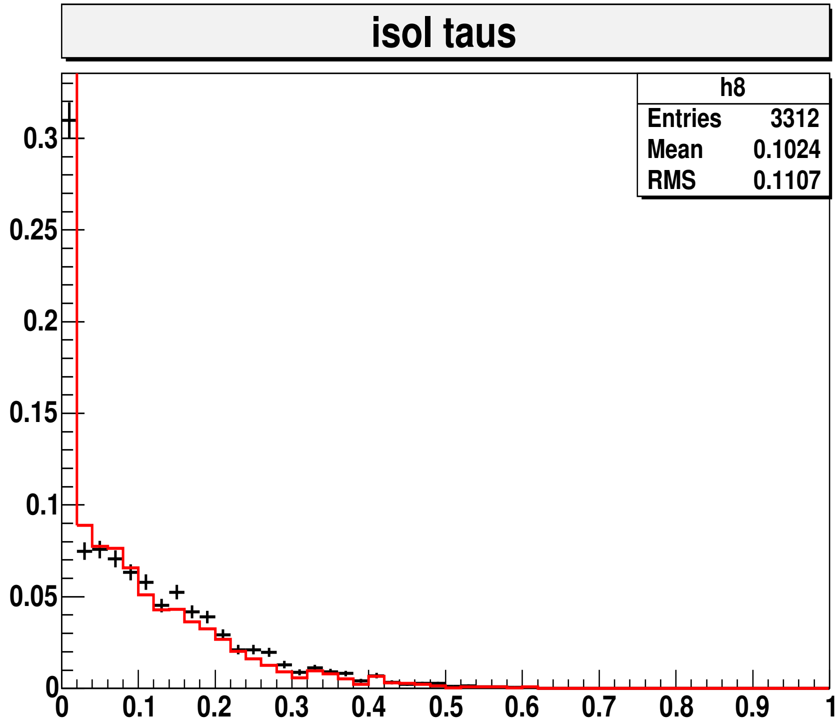
MC p15.06.01 vs MC p16.01.00 (continued)

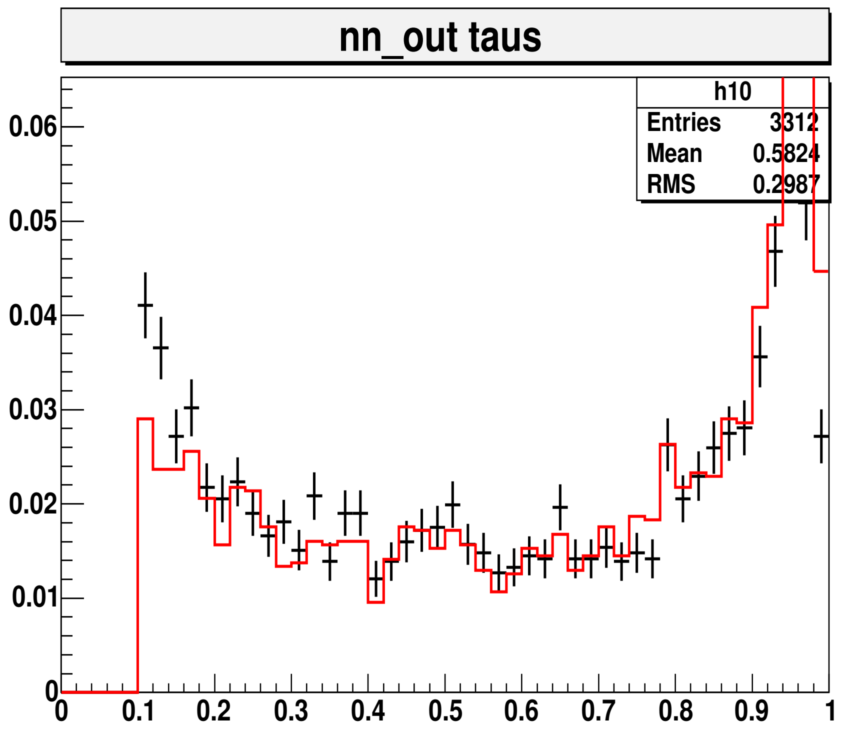
– other useful distributions:

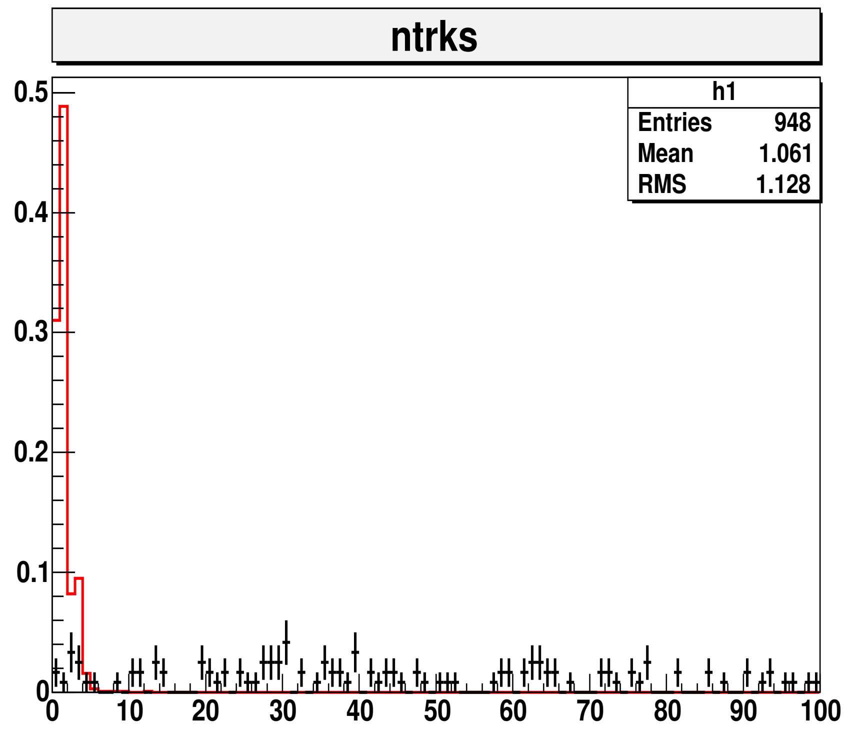




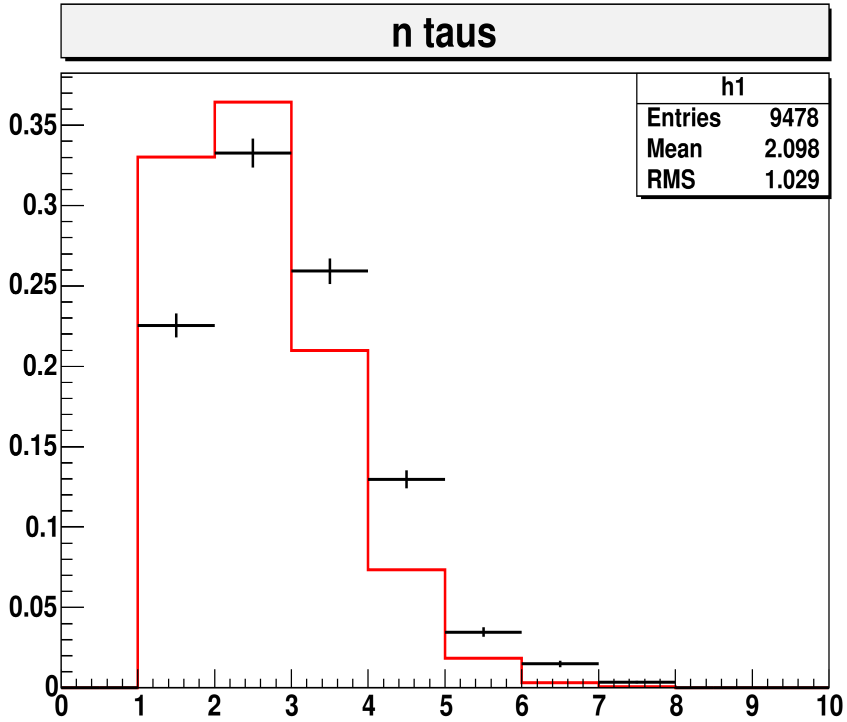

em12isof taus
h5
Entries 2620
Mean 0.2209
RMS 0.236
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1

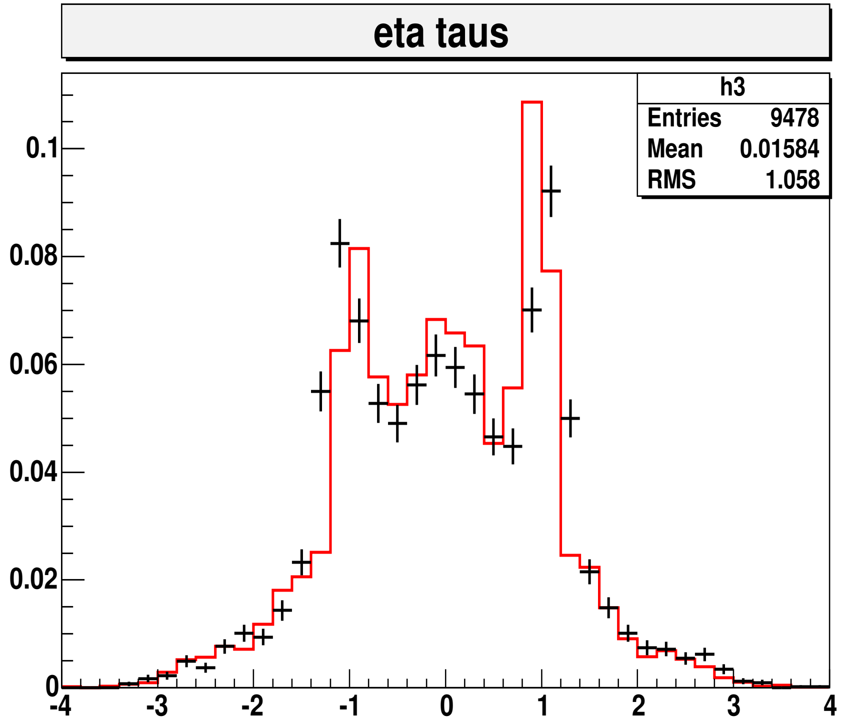

isol taus
h8
Entries 3312
Mean 0.1024
RMS 0.1107
0.3
0.25
0.2
0.15
0.1
0.05
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1


nn_out taus
h10
Entries 3312
Mean 0.5824
RMS 0.2987
0.06
0.05
0.04
0.03
0.02
0.01
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1


ntrks
h1
Entries 948
Mean 1.061
RMS 1.128
0.5
0.4
0.3
0.2
0.1
0
0 10 20 30 40 50 60 70 80 90 100

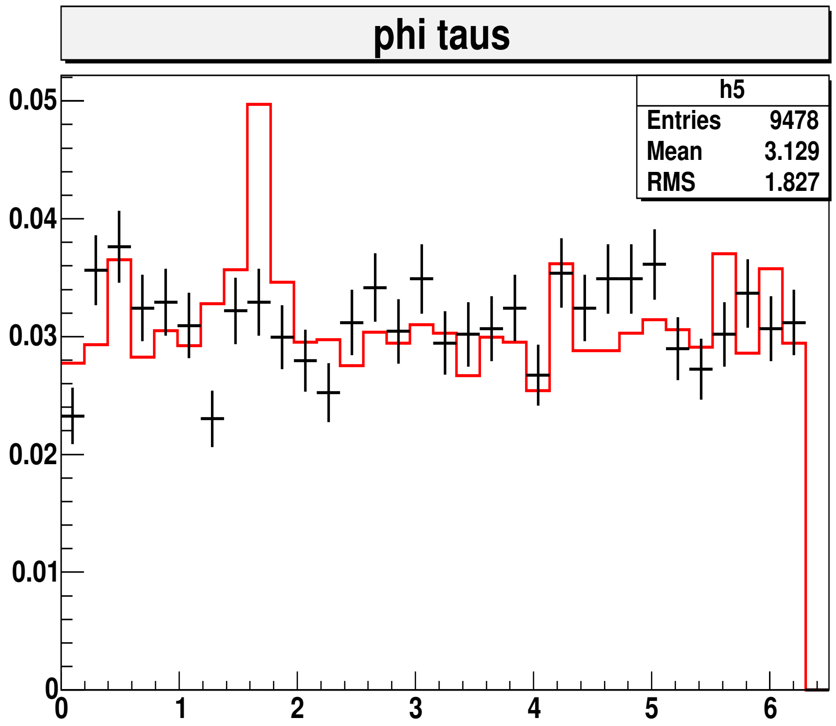
Old data vs New data (same NN_BASED tool)

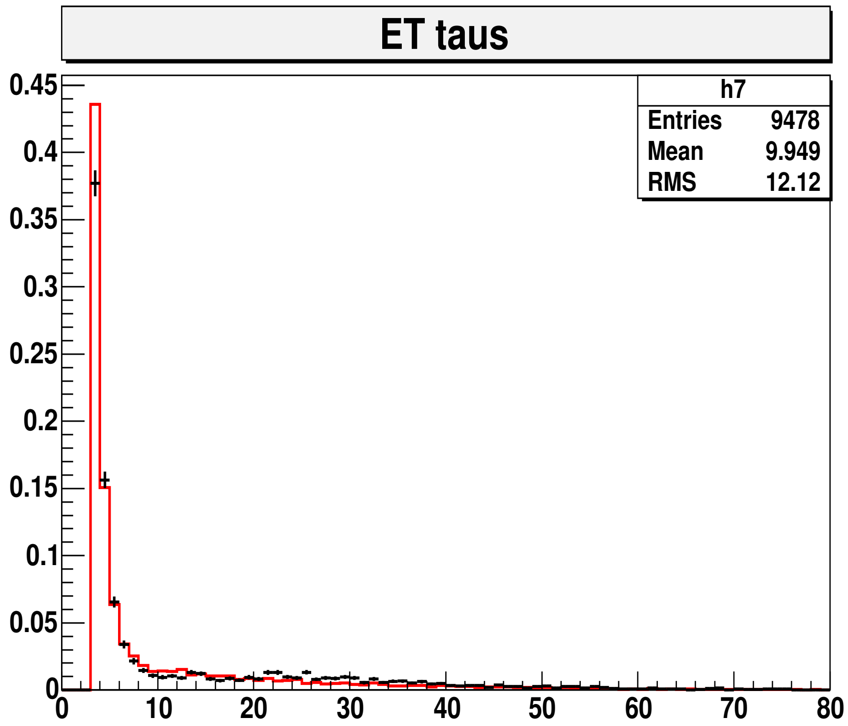




- red: old data p15.06.01 (NN_BASED algo, nn_cut = 0.1)
- black: new data p16.01.00 (same algo, cuts, etc)

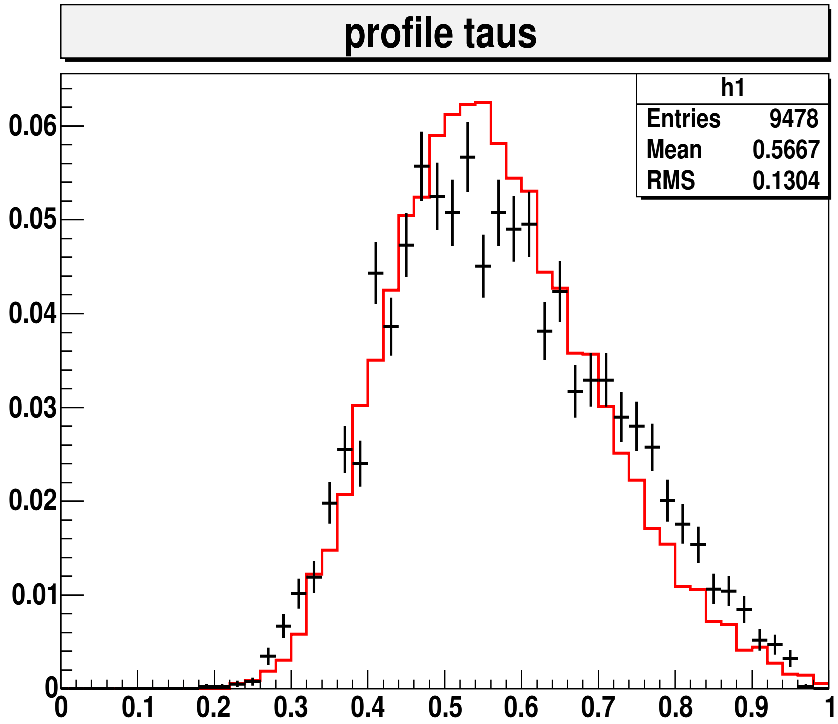
Old data vs New data (same NN_BASED tool)-continued

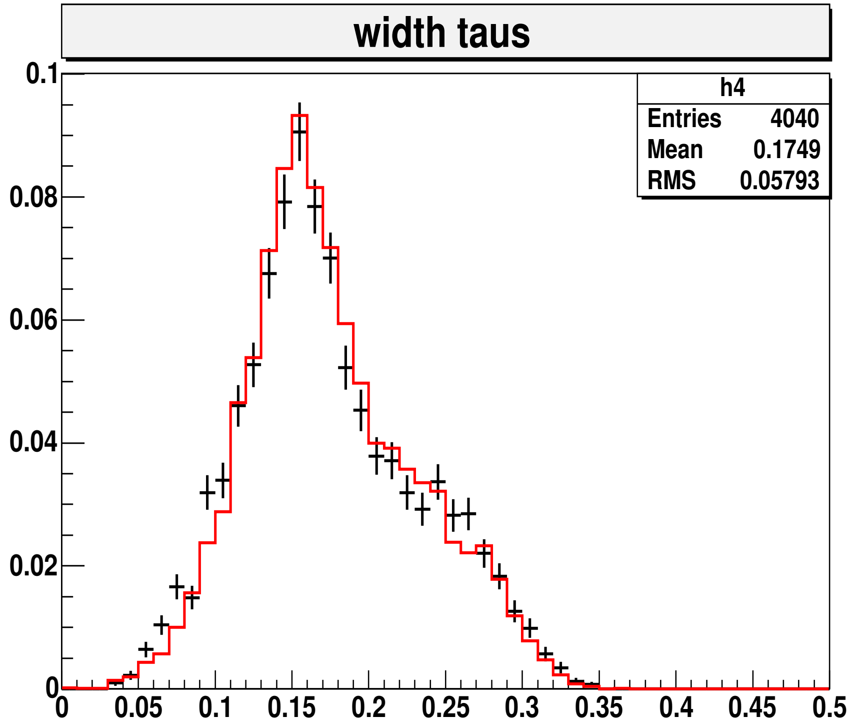


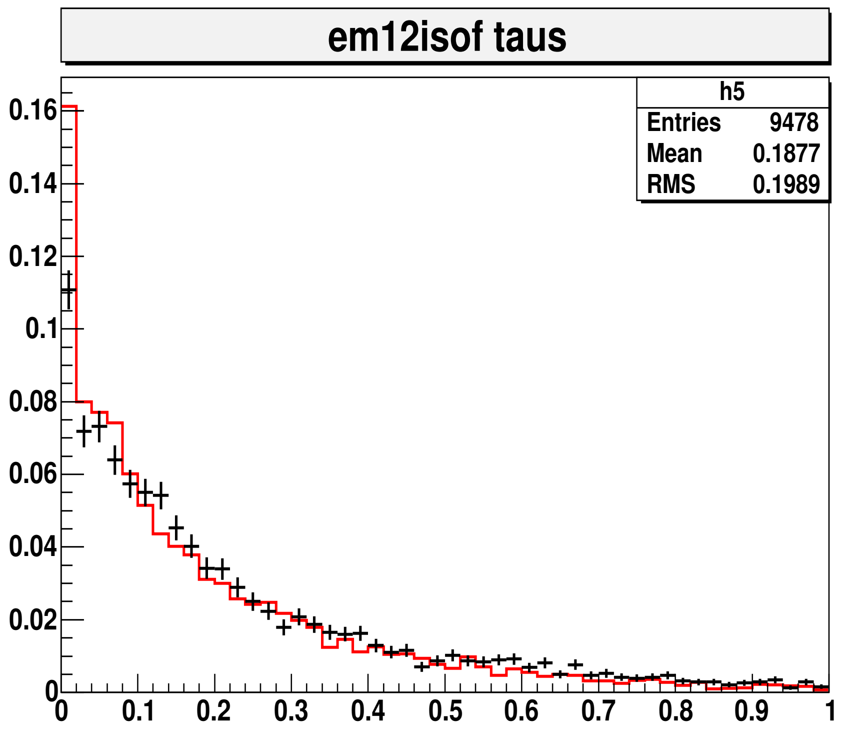


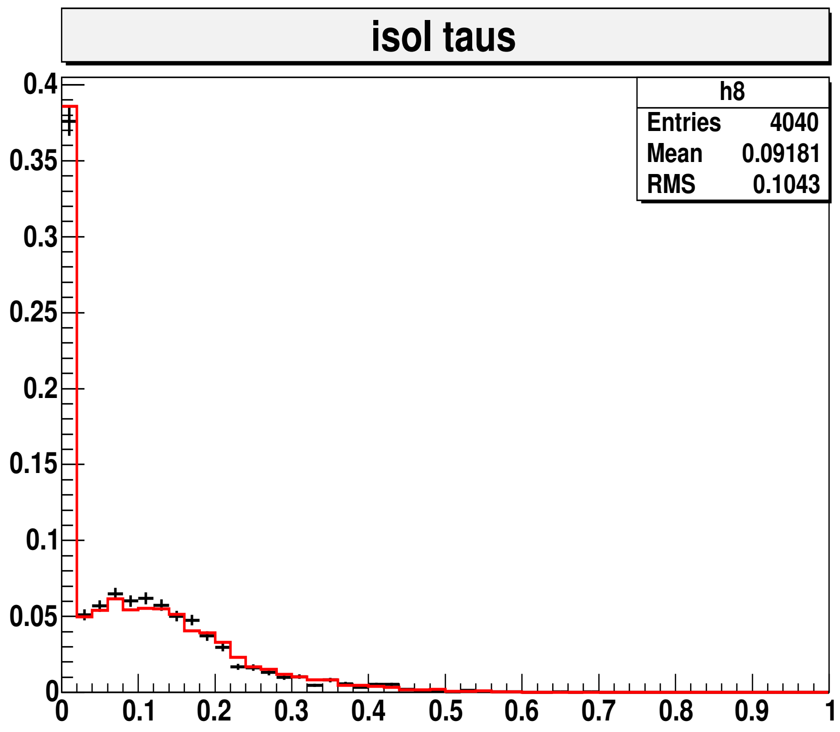
Old data vs New data (same NN_BASED tool)-continued

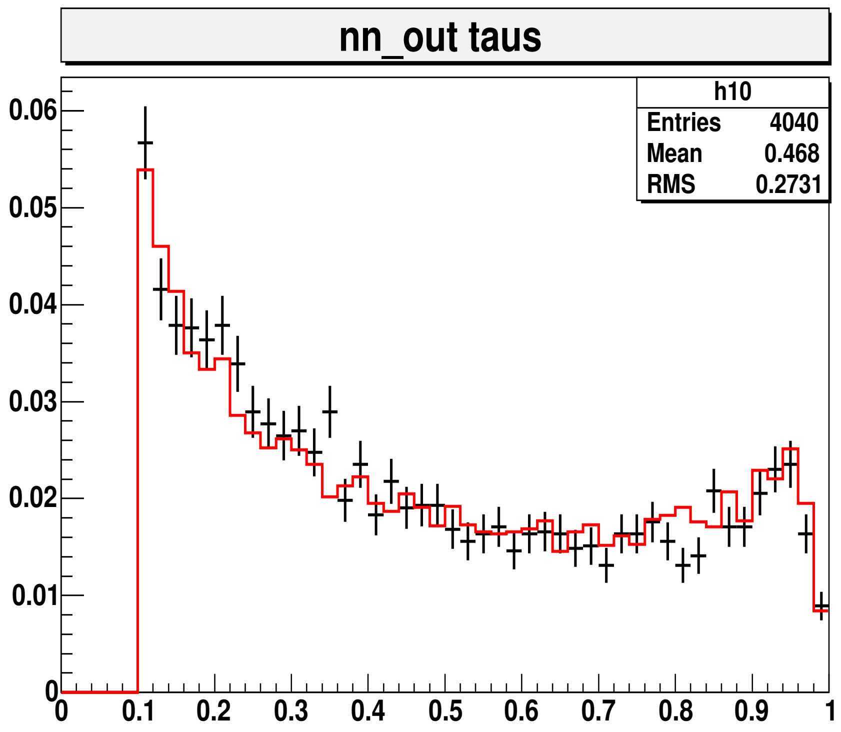
– other useful distributions:

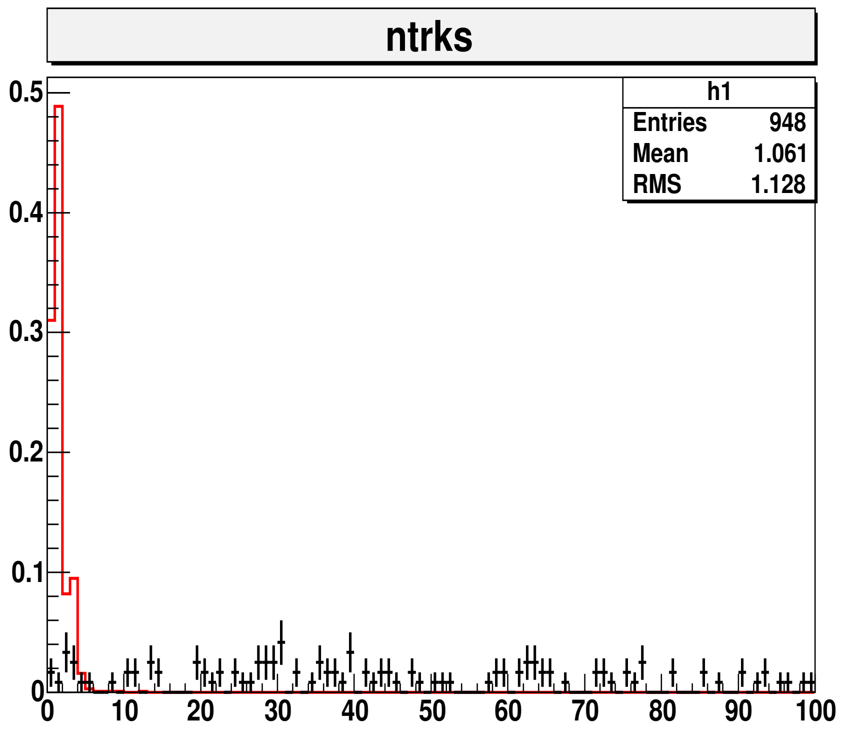




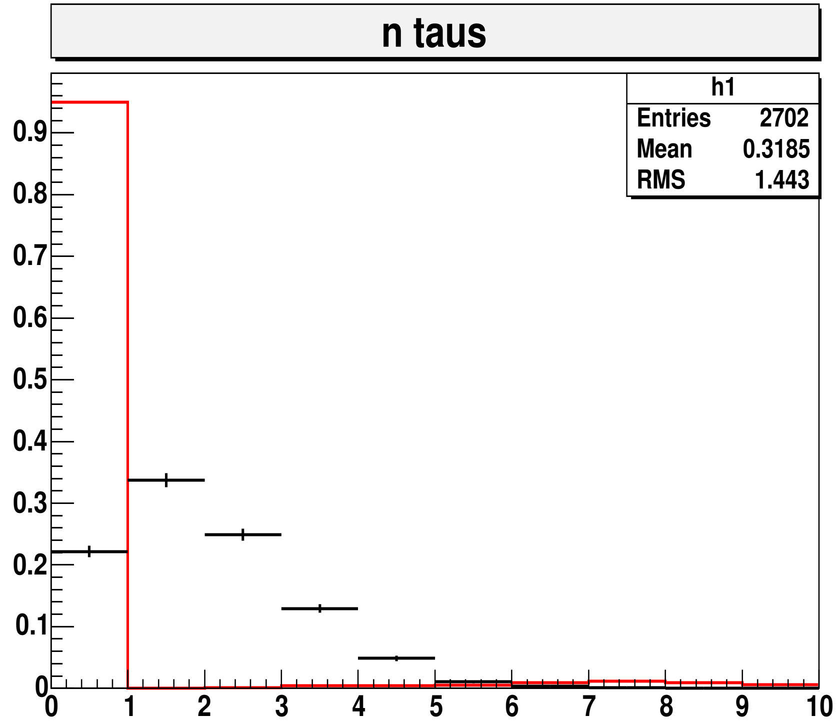

em12isof taus
h5
Entries 9478
Mean 0.1877
RMS 0.1989
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1

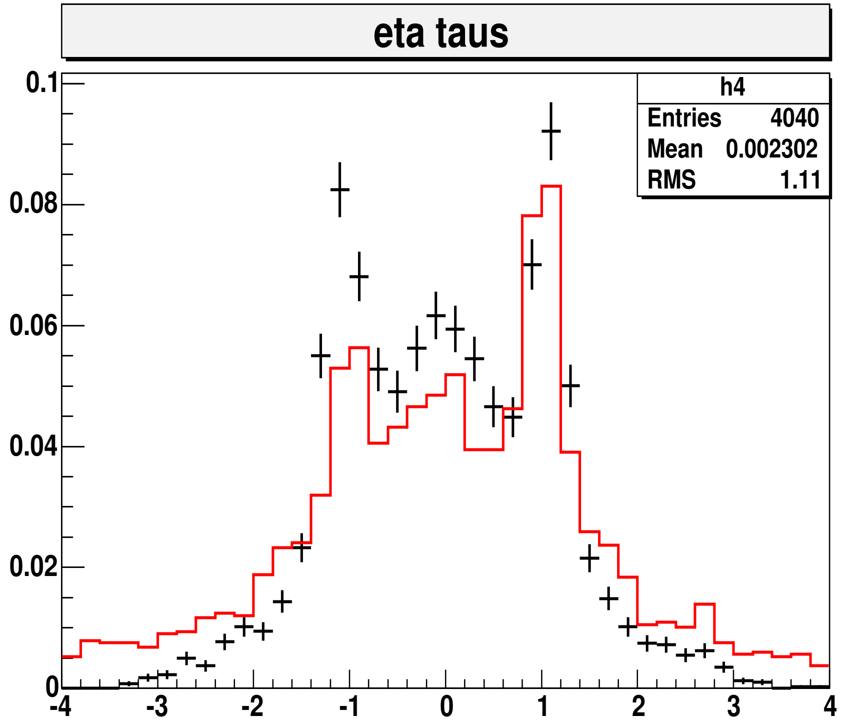

isol taus
h8
Entries 4040
Mean 0.09181
RMS 0.1043
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1


nn_out taus
h10
Entries 4040
Mean 0.468
RMS 0.2731
0.06
0.05
0.04
0.03
0.02
0.01
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1


ntrks
h1
Entries 948
Mean 1.061
RMS 1.128
0.5
0.4
0.3
0.2
0.1
0
0 10 20 30 40 50 60 70 80 90 100

New data: online (CAL) vs offline (NN)





– red: online (CAL_BASED)

– black: offline (NN_BASED)

New data: online (CAL) vs offline (NN)- continued