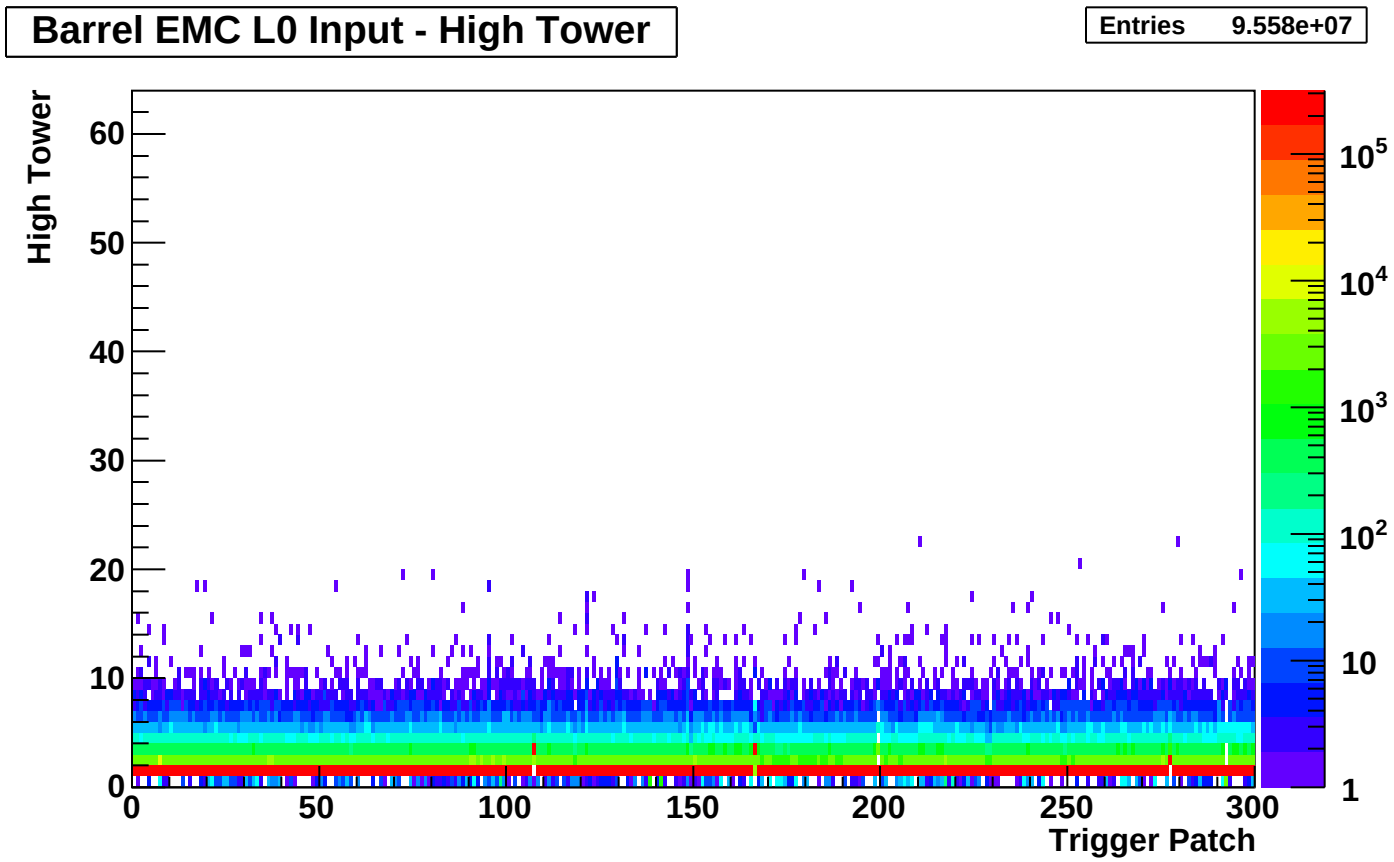
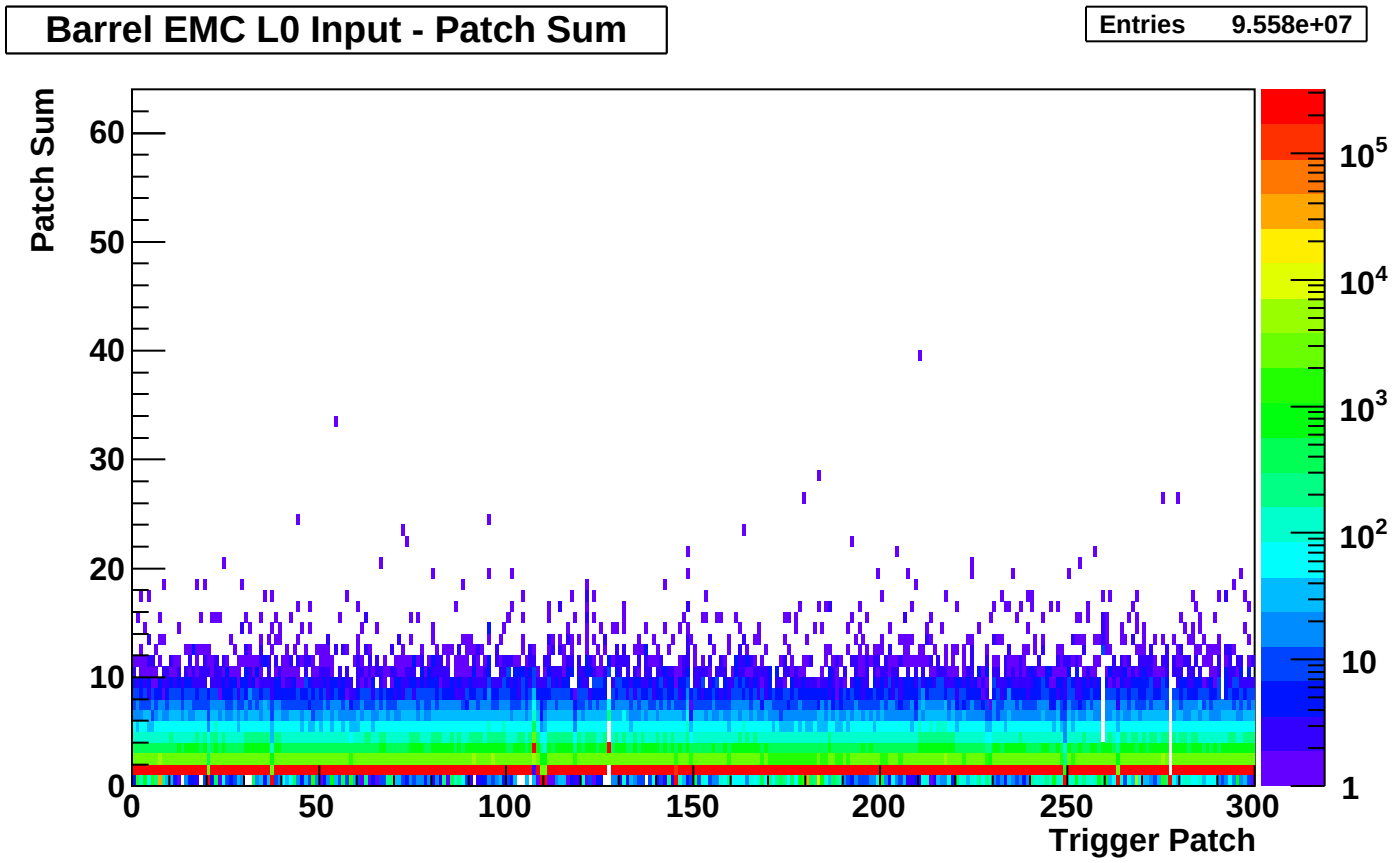
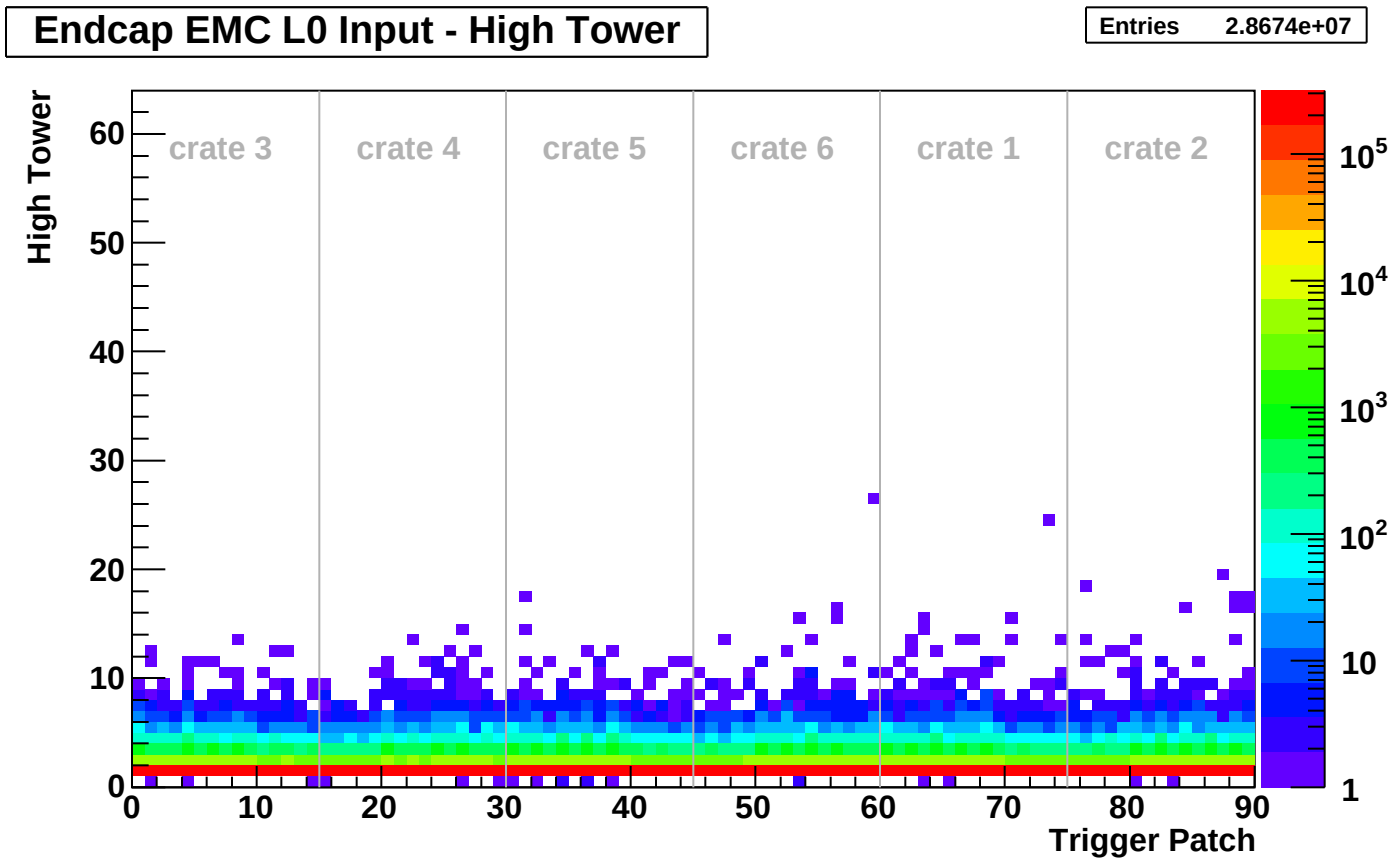
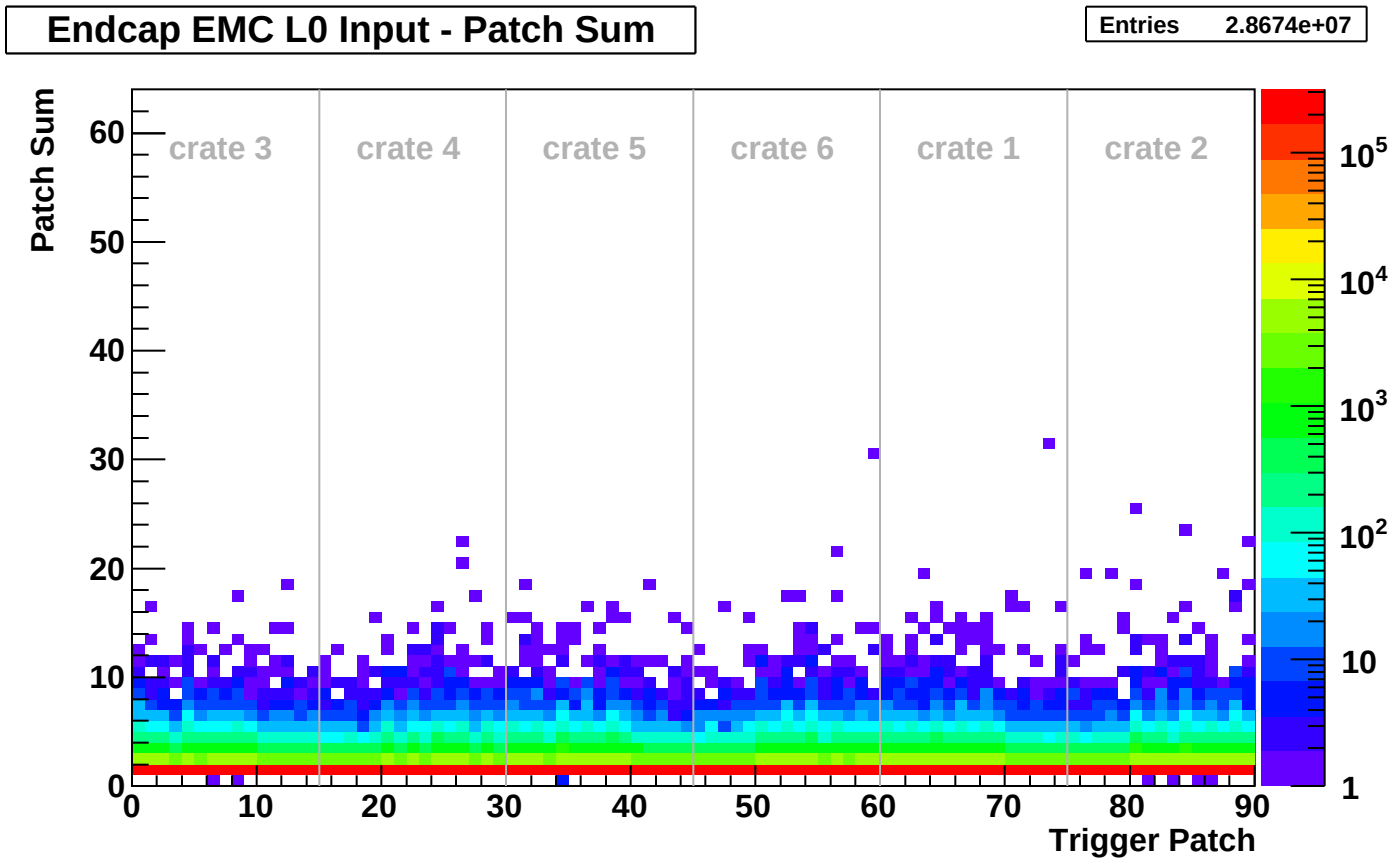
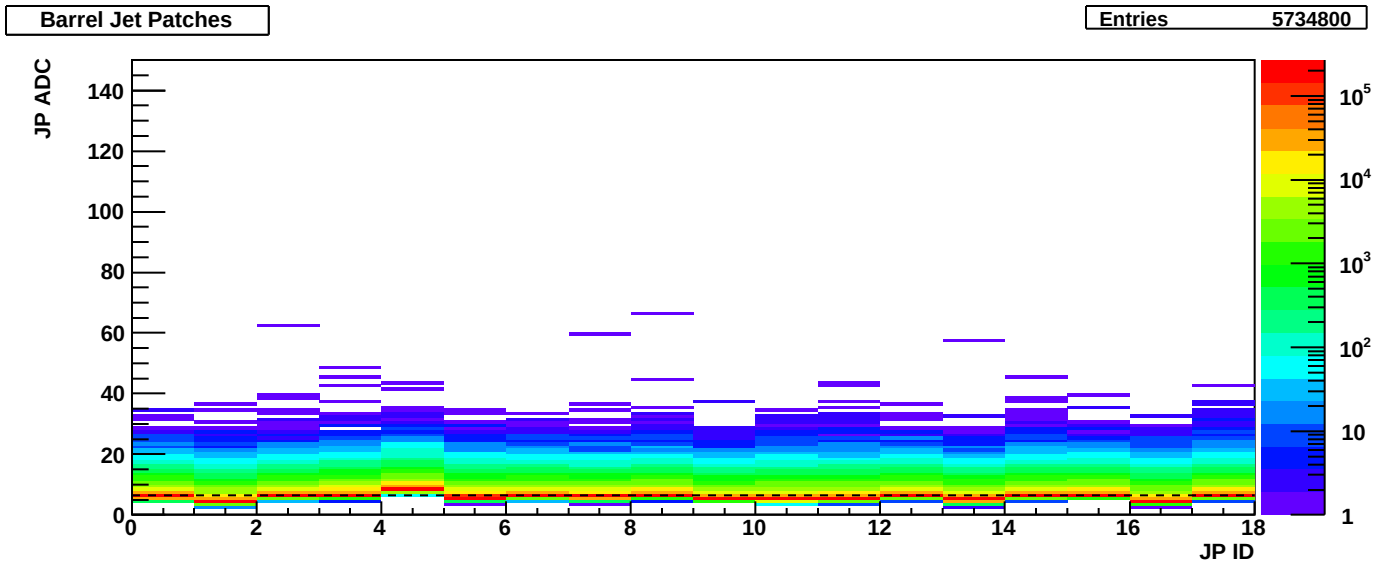
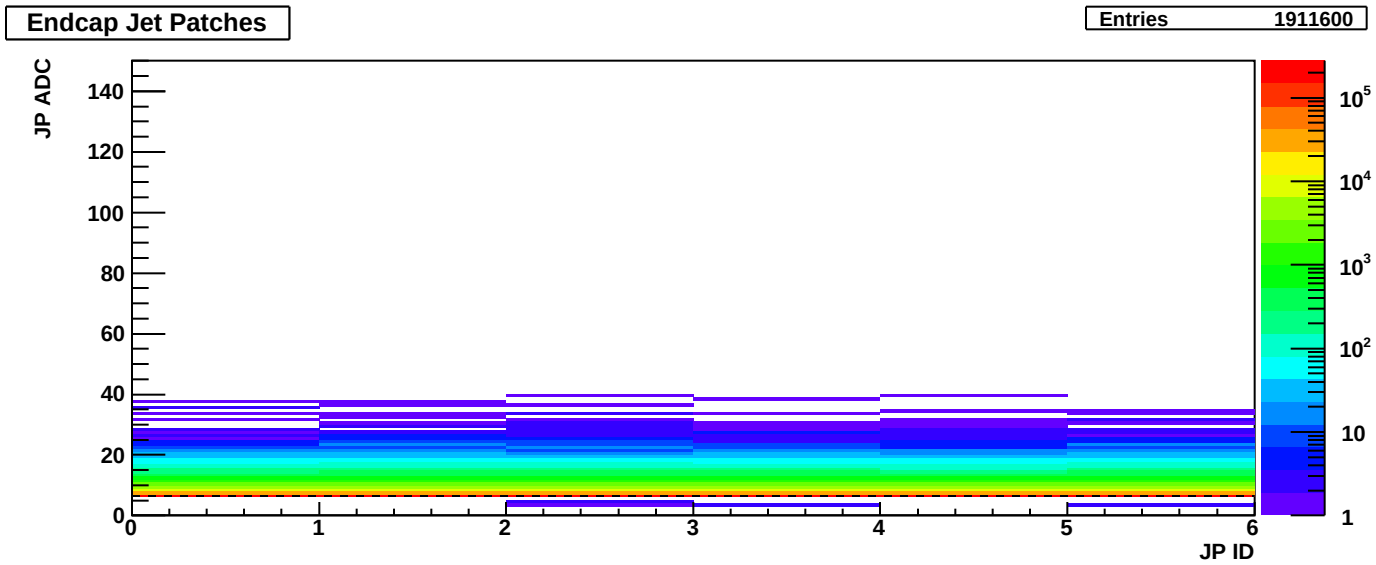

Barrel EMC L0 Input - High Tower
Entries 9.558e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

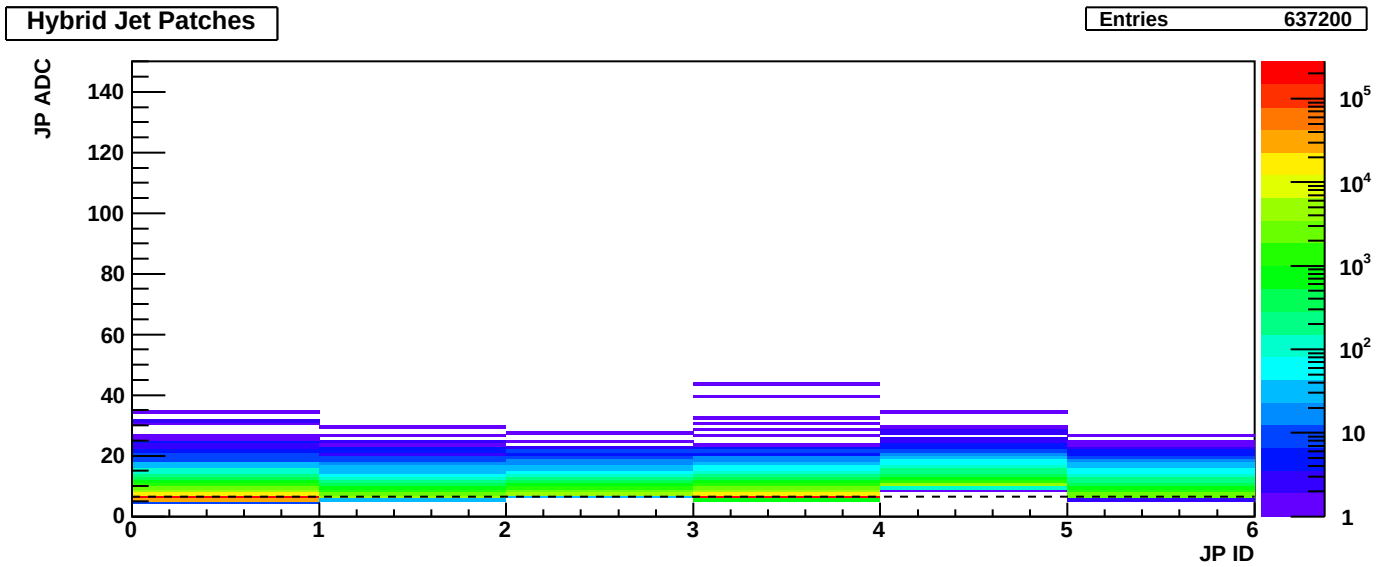

Barrel EMC L0 Input - Patch Sum
Entries 9.558e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

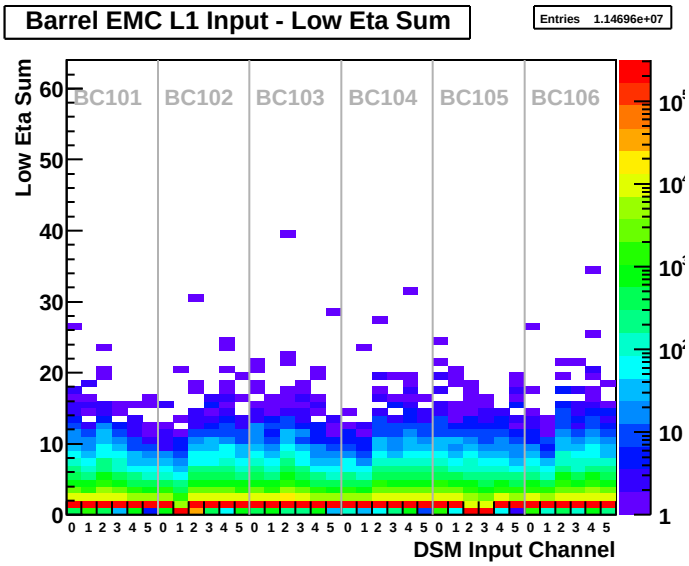

Endcap EMC L0 Input - High Tower
Entries 2.8674e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

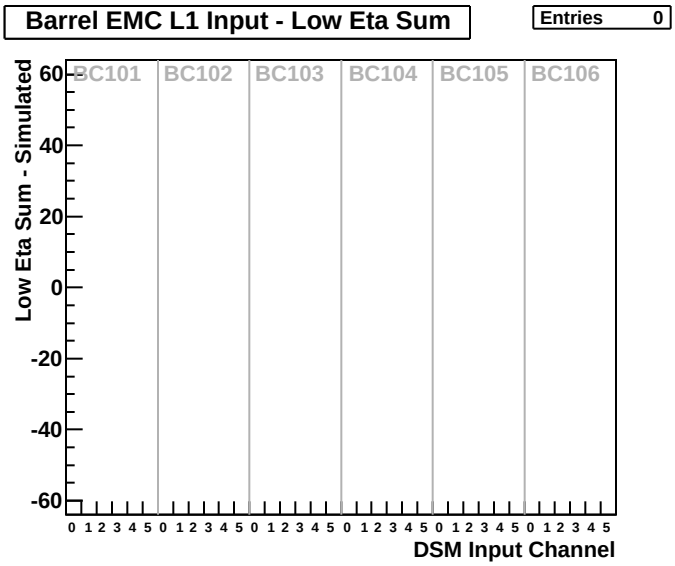

Endcap EMC L0 Input - Patch Sum
Entries 2.8674e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

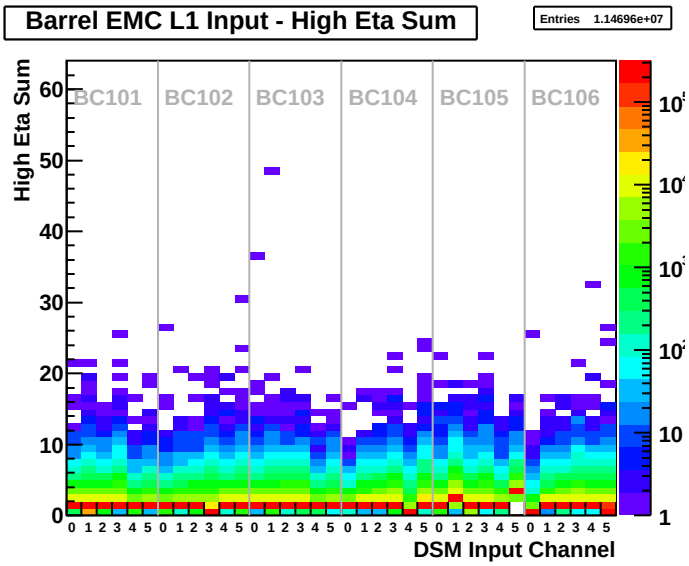

Barrel Jet Patches
Entries 5734800
JP ADC
JP ID

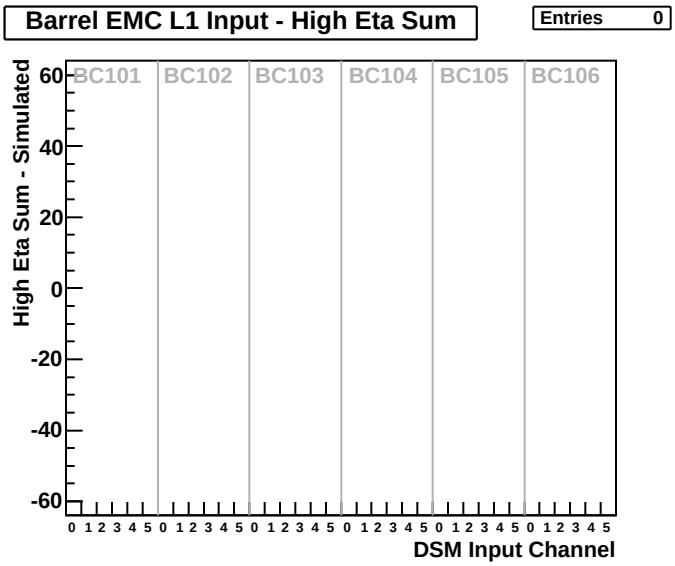

Endcap Jet Patches
Entries 1911600
JP ADC
JP ID

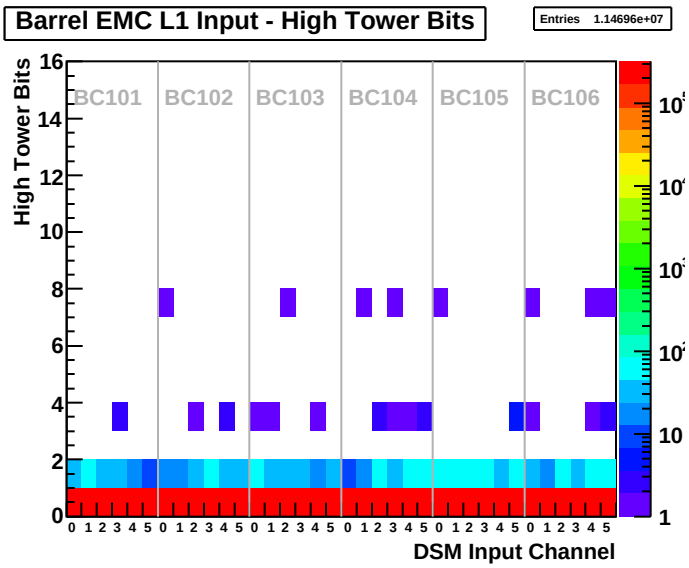

Hybrid Jet Patches
Entries 637200
JP ADC
JP ID

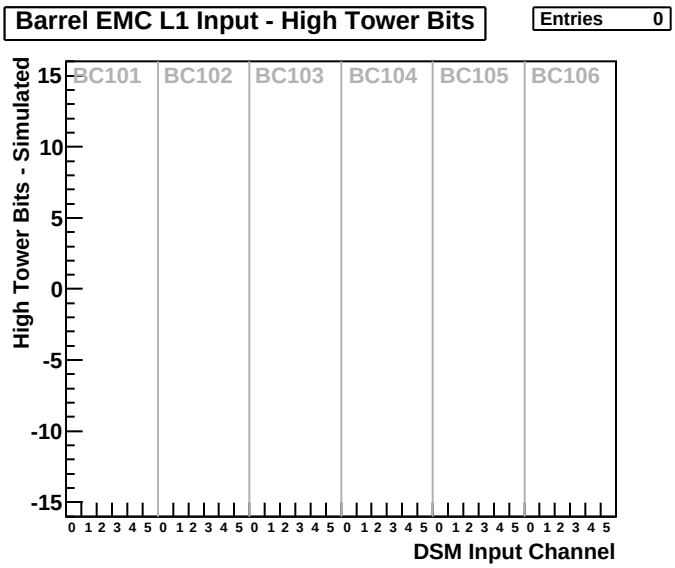

Barrel EMC L1 Input - Low Eta Sum
Entries 1.14696e+07
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

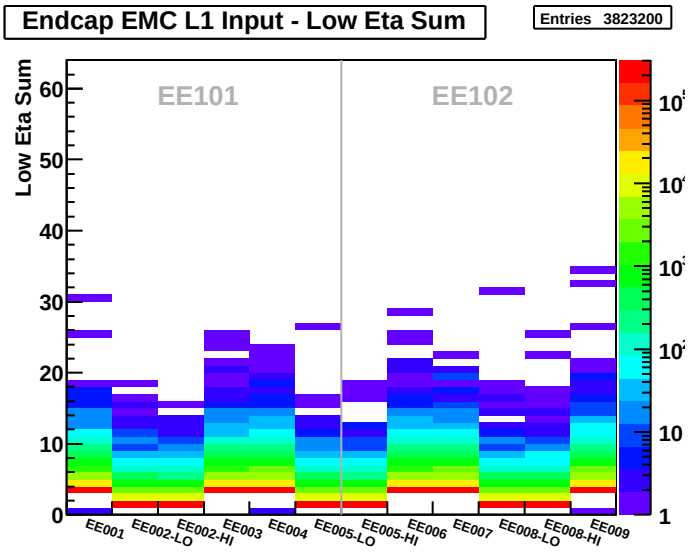

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

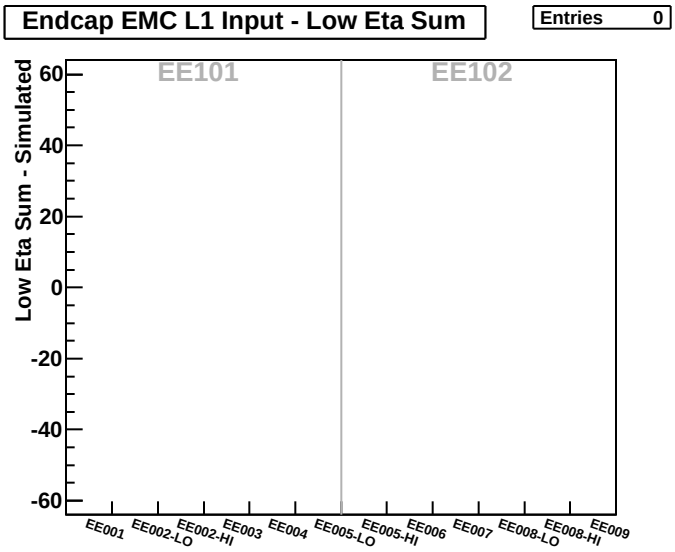

Barrel EMC L1 Input - High Eta Sum
Entries 1.14696e+07
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

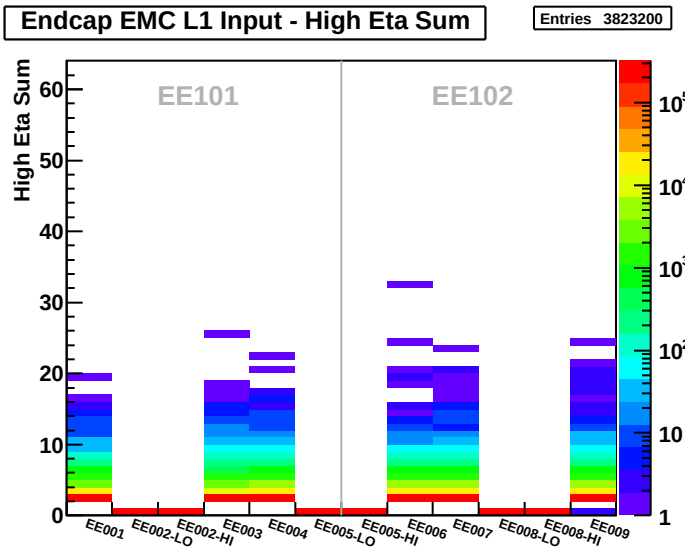

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

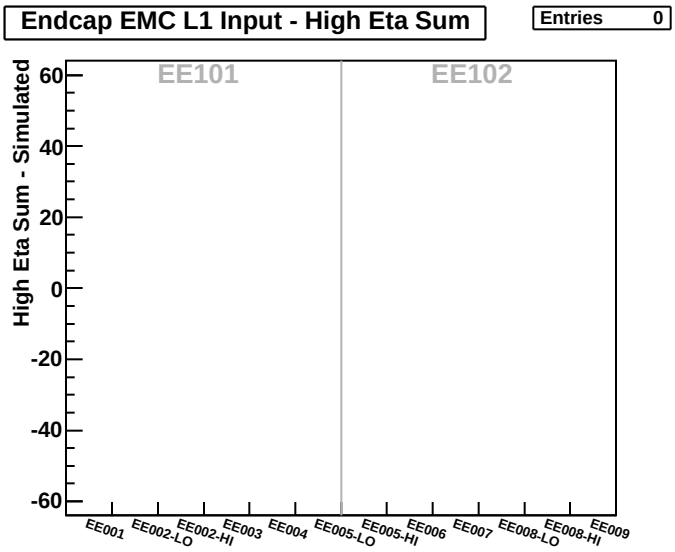

Barrel EMC L1 Input - High Tower Bits
Entries 1.14696e+07
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

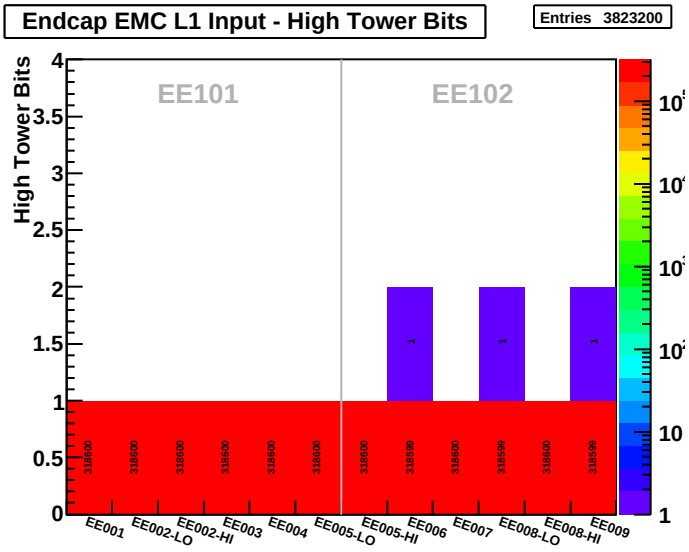

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

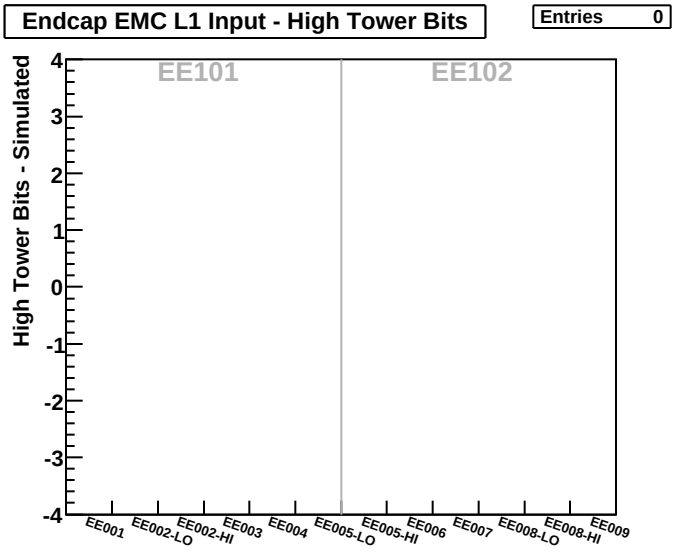

Endcap EMC L1 Input - Low Eta Sum
Entries 3823200
Low Eta Sum
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

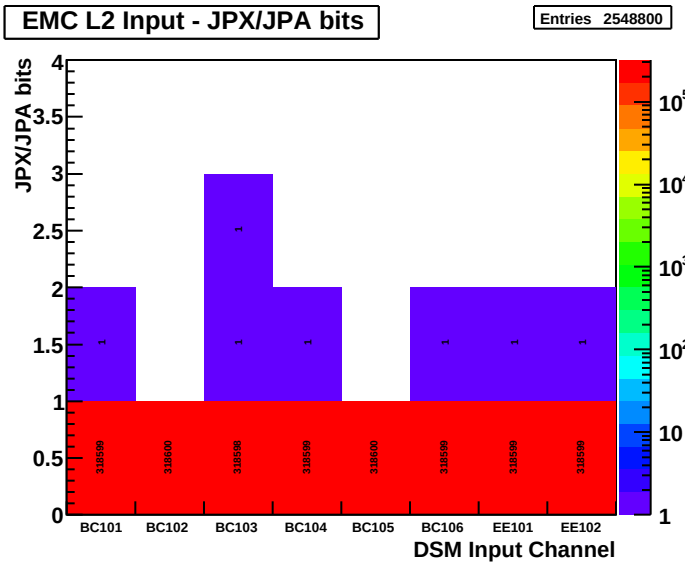

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

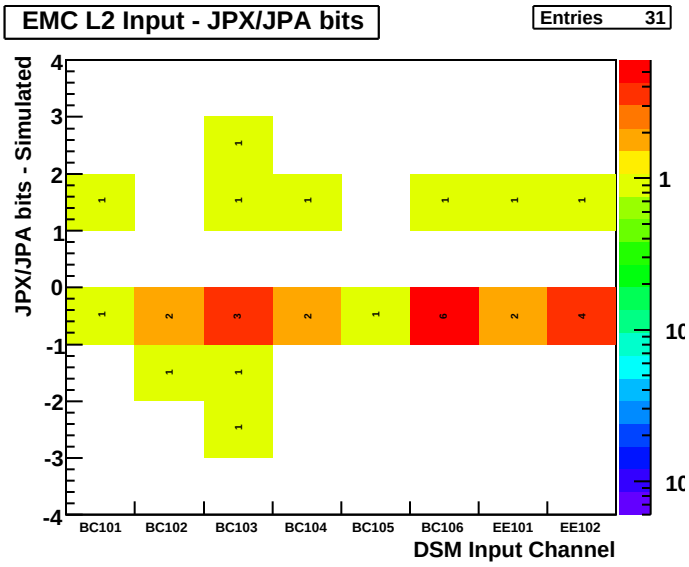

Endcap EMC L1 Input - High Eta Sum
Entries 3823200
High Eta Sum
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

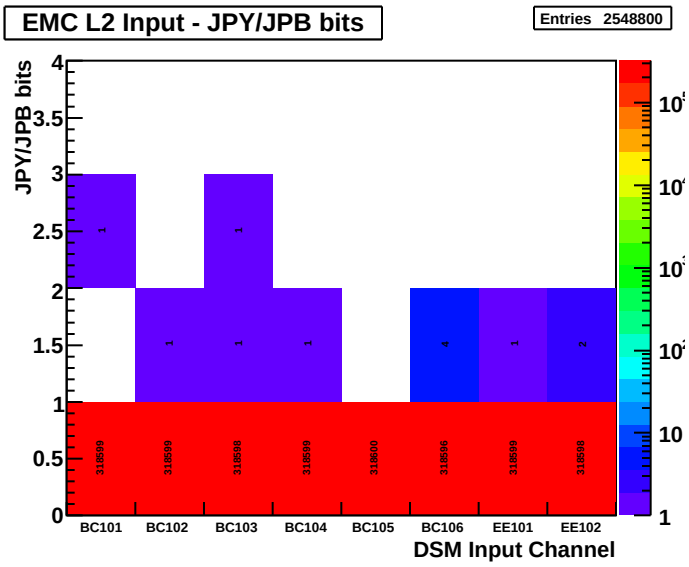

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

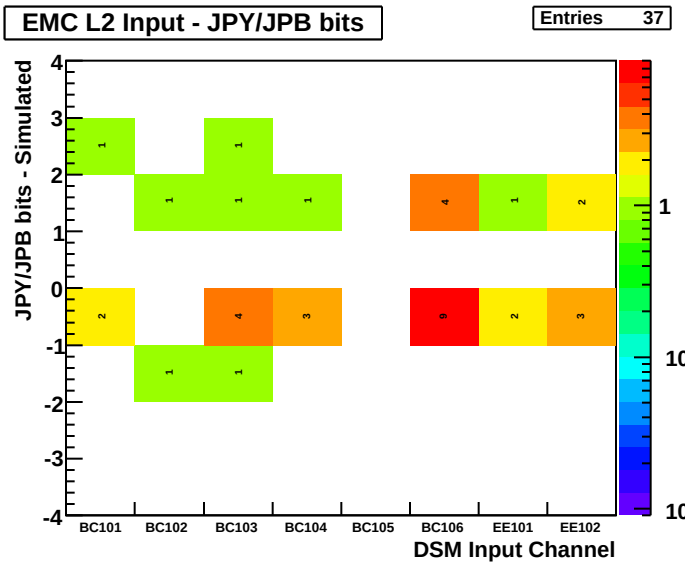

Endcap EMC L1 Input - High Tower Bits
Entries 3823200
High Tower Bits
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

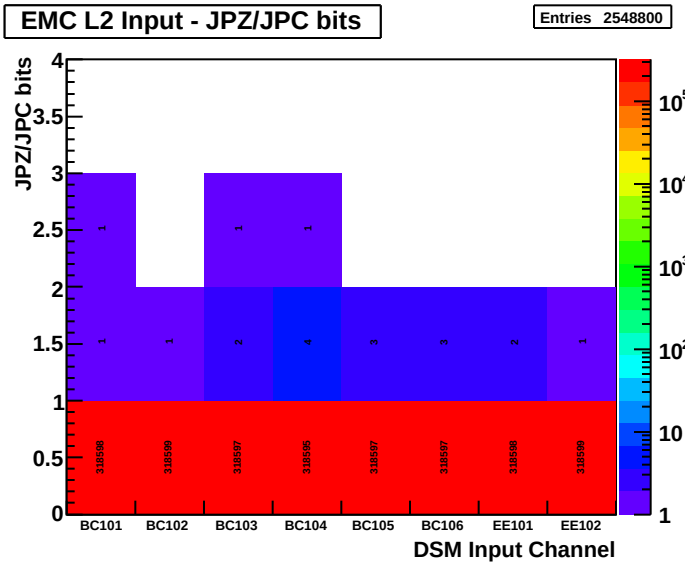

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

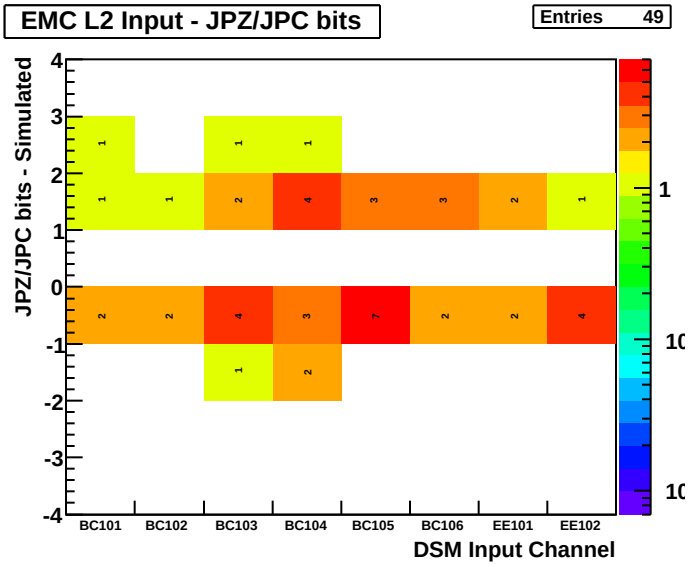

EMC L2 Input - JPX/JPA bits
Entries 2548800
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

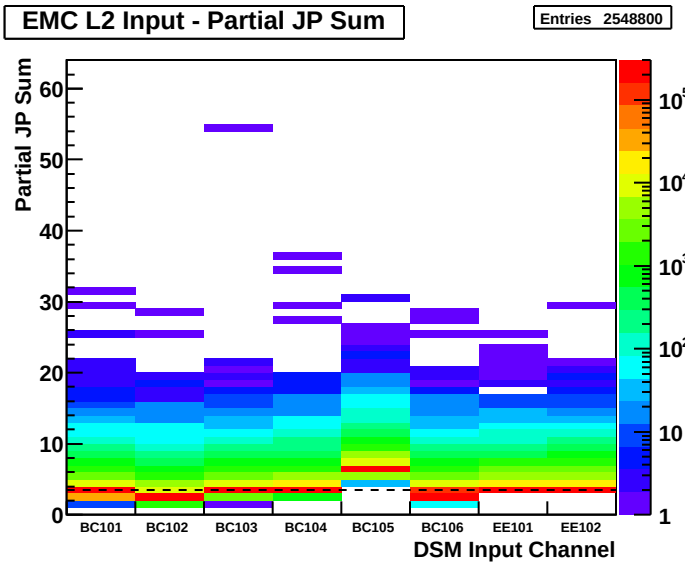

EMC L2 Input - JPX/JPA bits
Entries 31
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

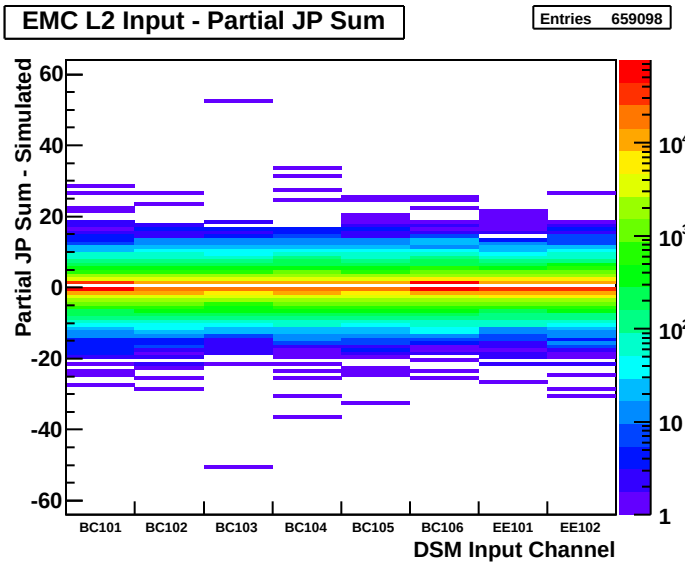

EMC L2 Input - JPY/JPB bits
Entries 2548800
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

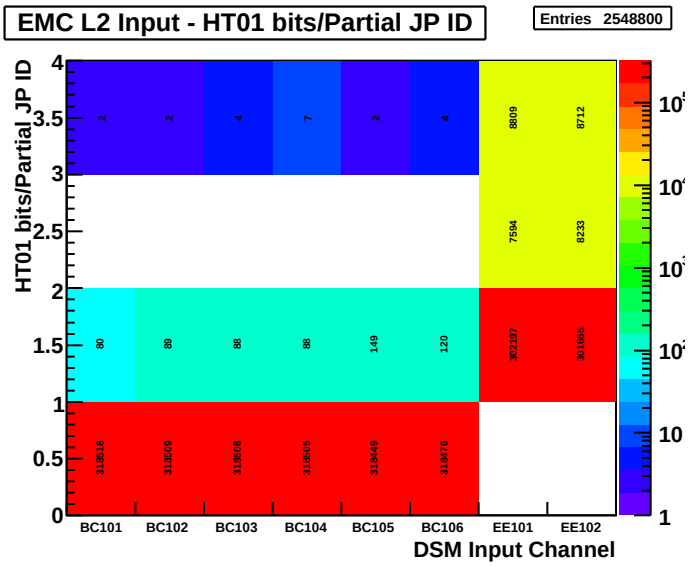

EMC L2 Input - JPY/JPB bits
Entries 37
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

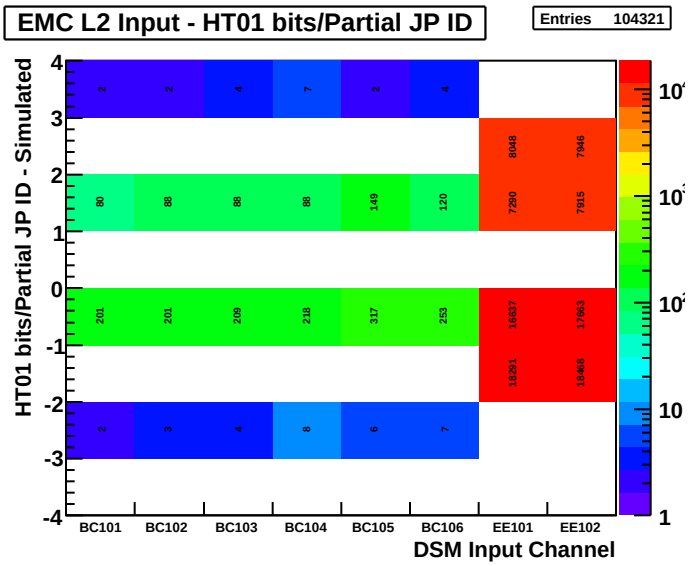

EMC L2 Input - JPZ/JPC bits
Entries 2548800
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

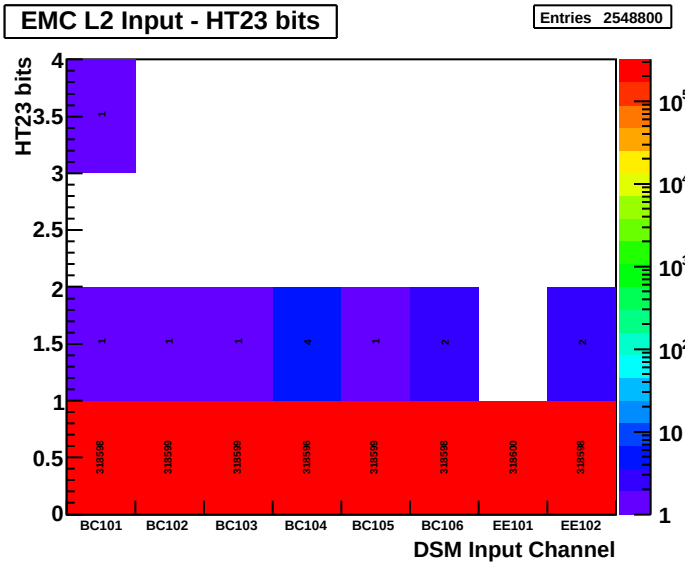

EMC L2 Input - JPZ/JPC bits
Entries 49
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

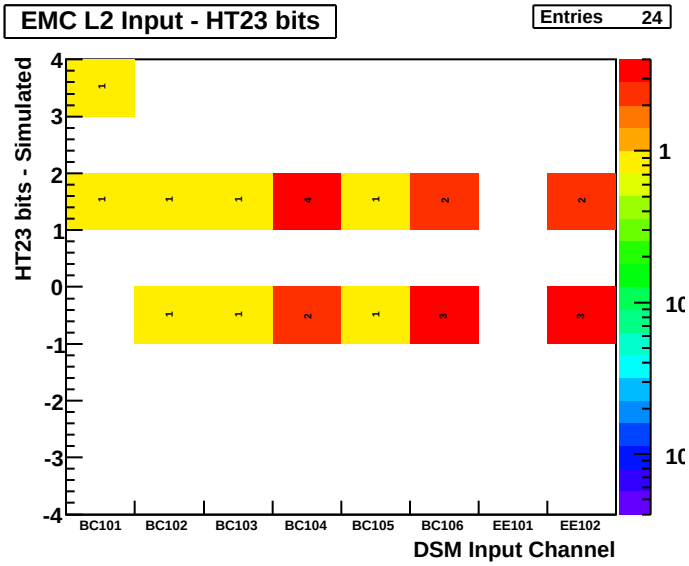

EMC L2 Input - Partial JP Sum
Entries 2548800
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

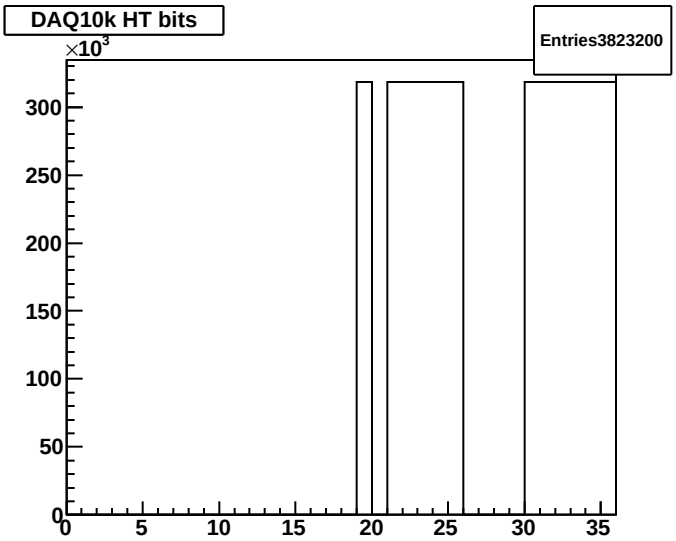

EMC L2 Input - Partial JP Sum
Entries 659098
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

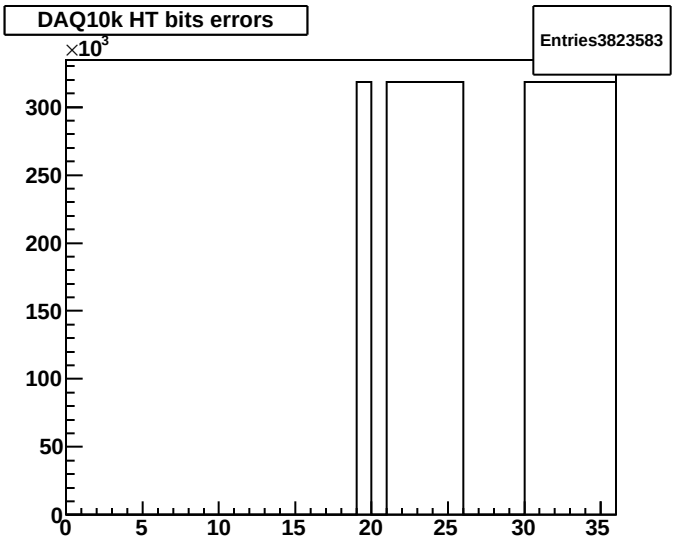

EMC L2 Input - HT01 bits/Partial JP ID
Entries 2548800
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

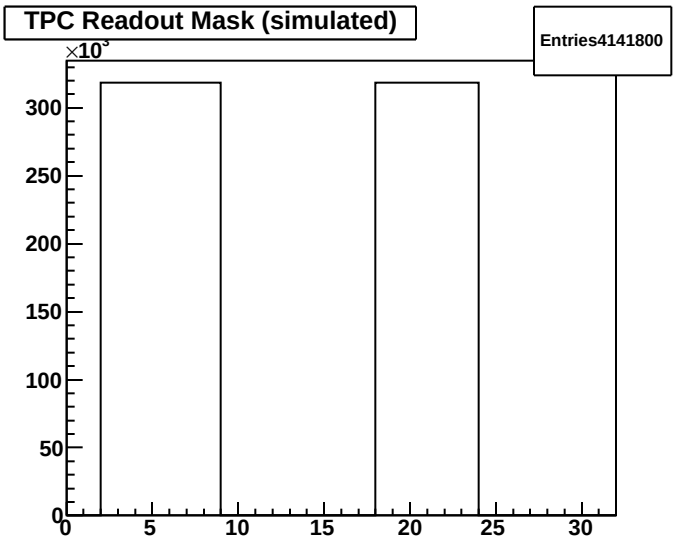

EMC L2 Input - HT01 bits/Partial JP ID
Entries 104321
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

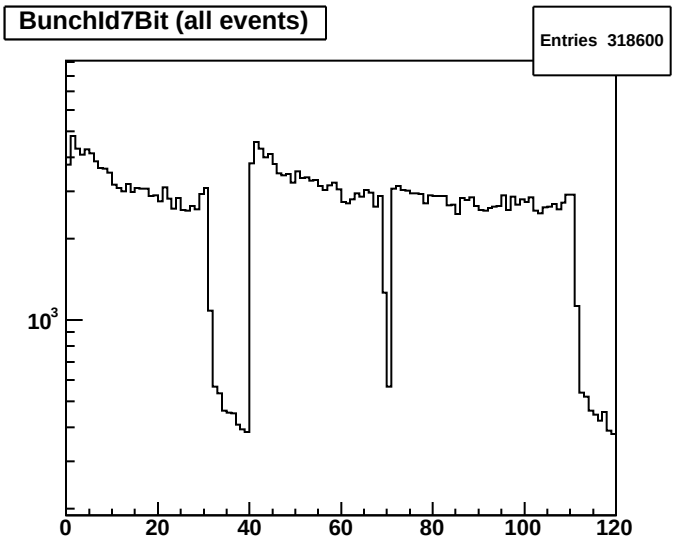

EMC L2 Input - HT23 bits
Entries 2548800
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

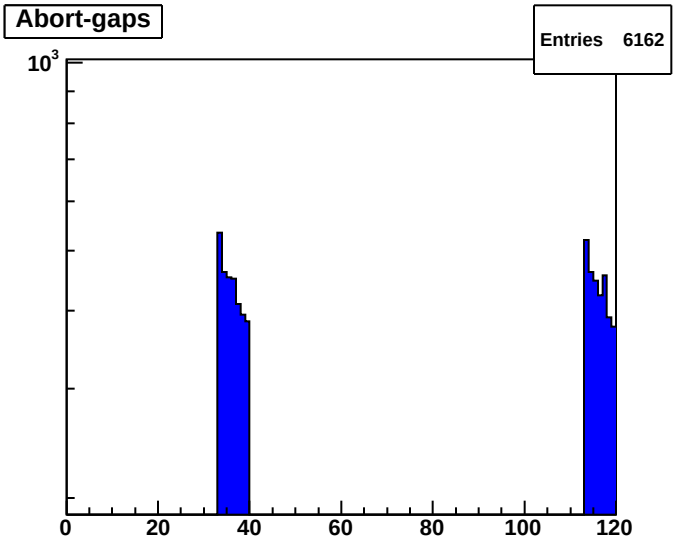

EMC L2 Input - HT23 bits
Entries 24
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

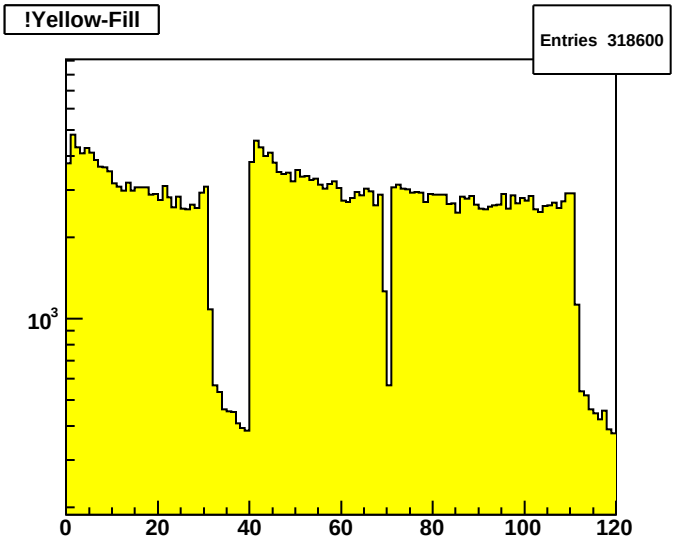

DAQ10k HT bits
Entries3823200
×10^3
300
250
200
150
100
50
0
0 5 10 15 20 25 30 35

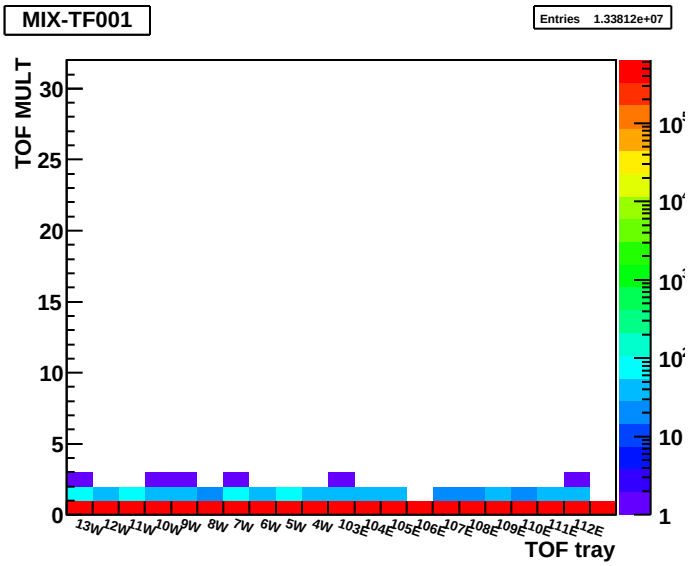

DAQ10k HT bits errors
Entries3823583
×10^3
300
250
200
150
100
50
0
0 5 10 15 20 25 30 35

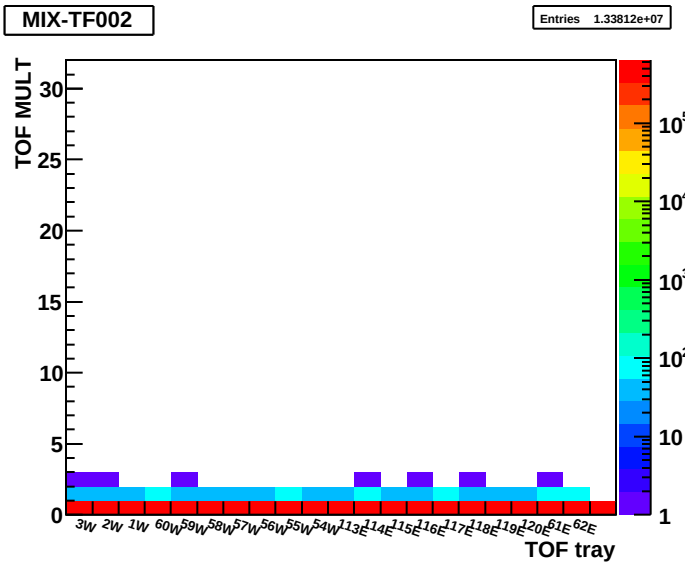

TPC Readout Mask (simulated)
Entries4141800
×10^3
300
250
200
150
100
50
0
0 5 10 15 20 25 30

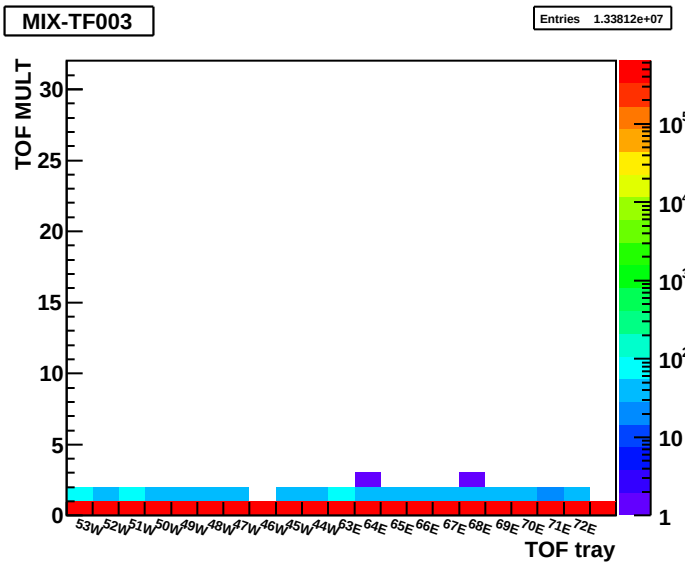

BunchId7Bit (all events)
Entries 318600
10^3
0 20 40 60 80 100 120

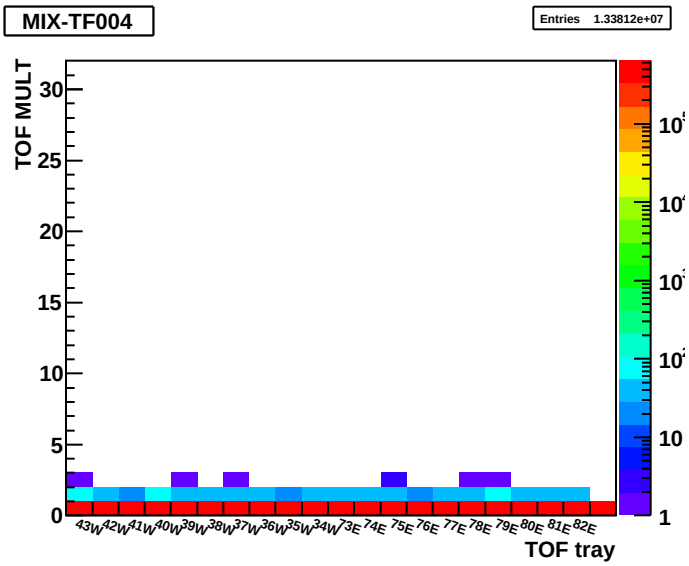

Abort-gaps
Entries 6162
10^3
0 20 40 60 80 100 120

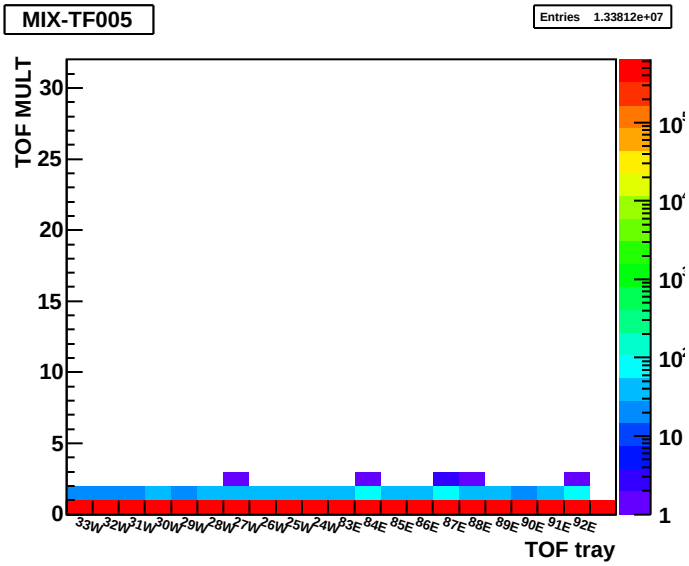

!Yellow-Fill
Entries 318600
10^3
0 20 40 60 80 100 120

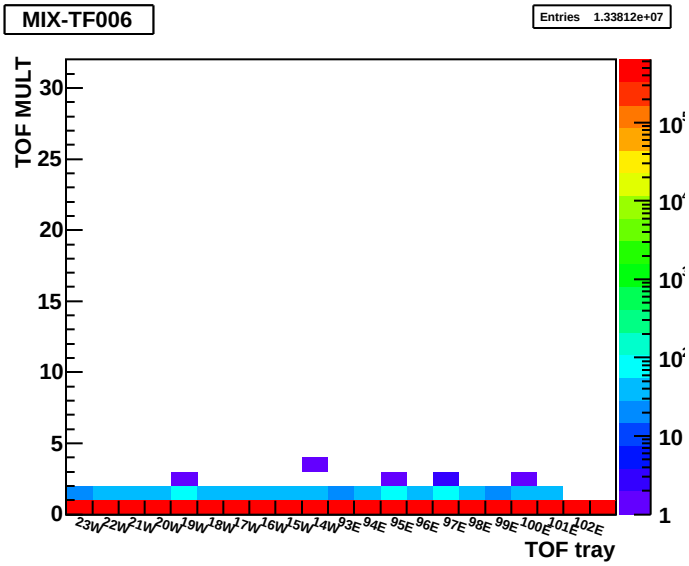

MIX-TF001
Entries 1.33812e+07
TOF MULT
TOF tray

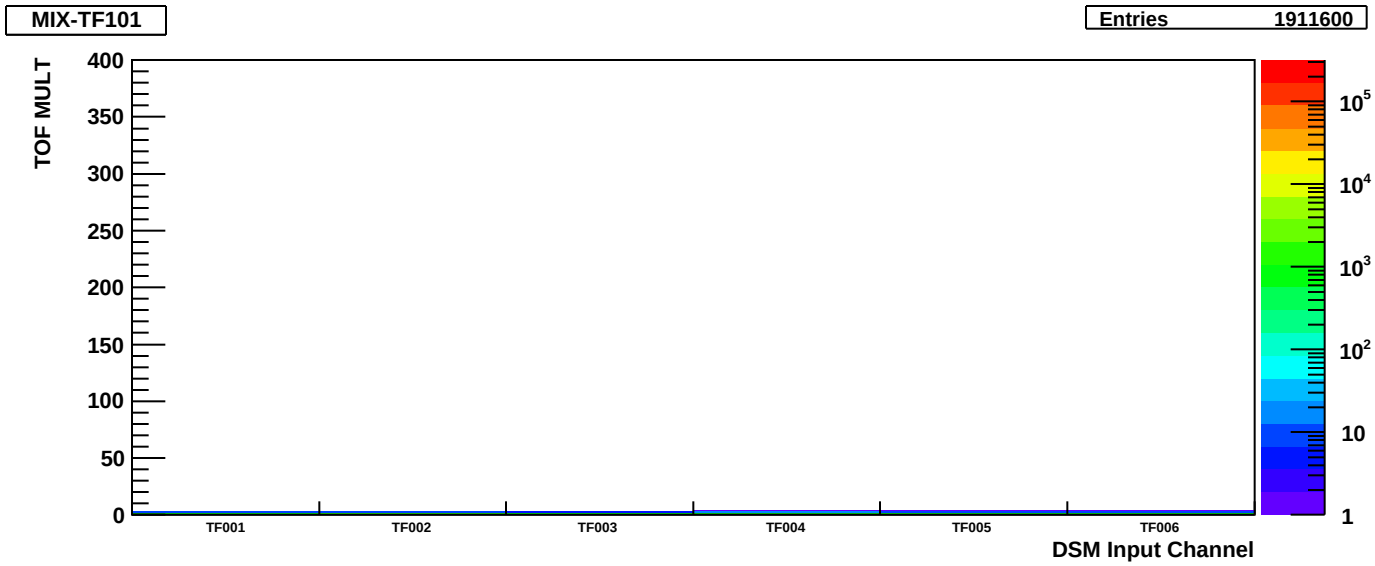

MIX-TF002
Entries 1.33812e+07
TOF MULT
TOF tray

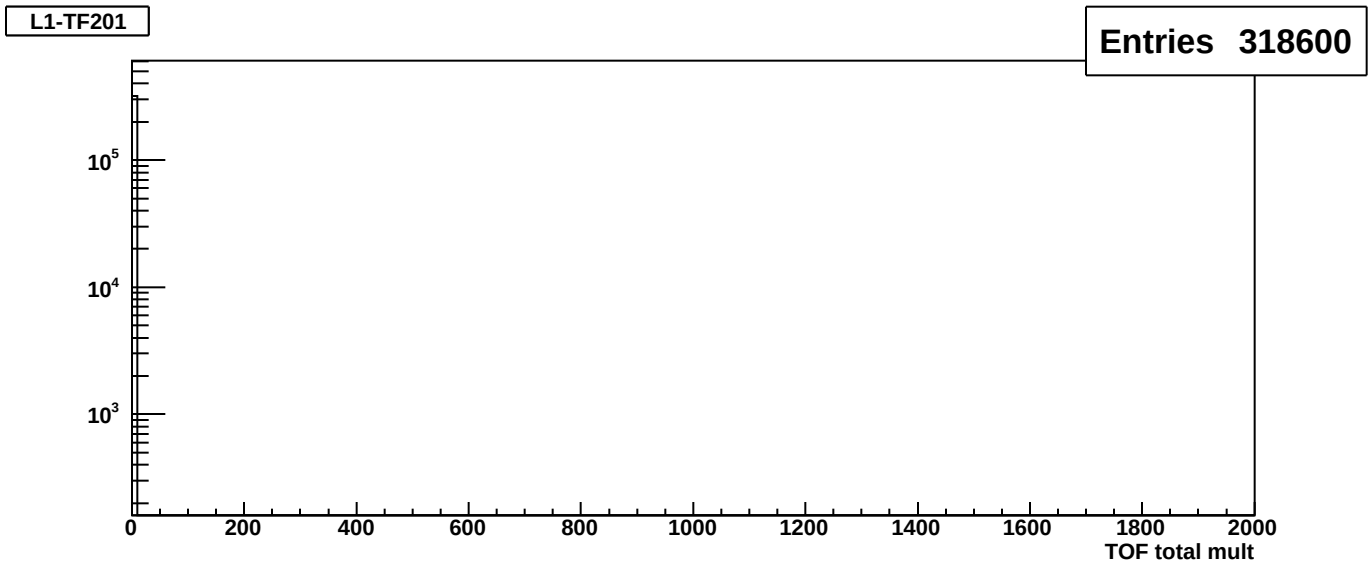

MIX-TF003
Entries 1.33812e+07
TOF MULT
TOF tray

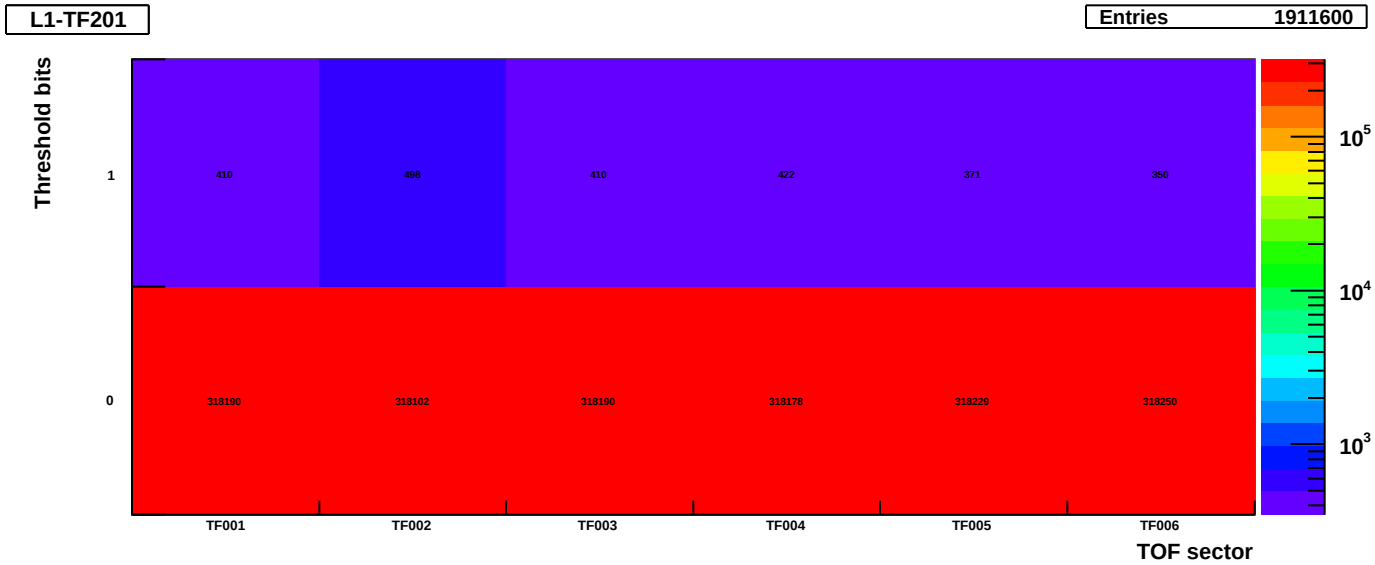

MIX-TF004
Entries 1.33812e+07
TOF MULT
TOF tray

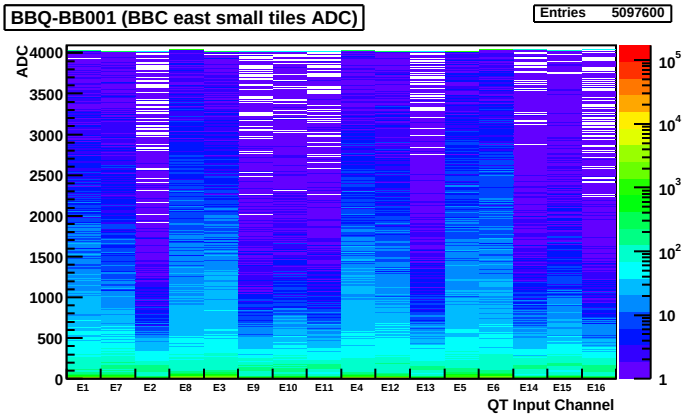

MIX-TF005
Entries 1.33812e+07
TOF MULT
TOF tray

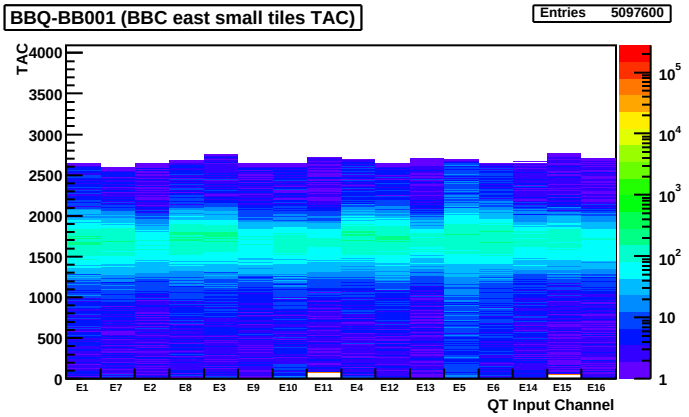

MIX-TF006
Entries 1.33812e+07
TOF MULT
TOF tray

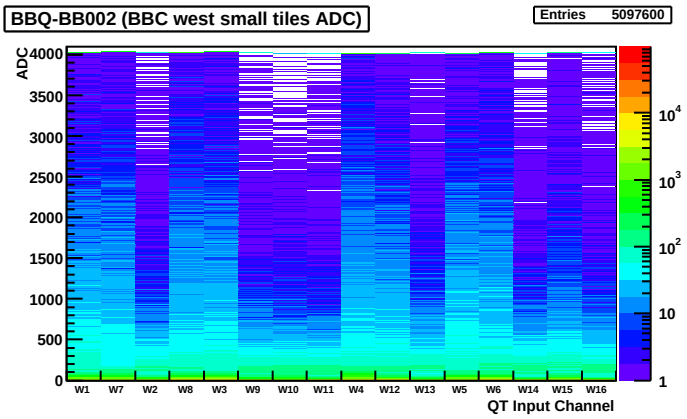

MIX-TF101
Entries 1911600
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^5
10^4
10^3
10^2
10
1

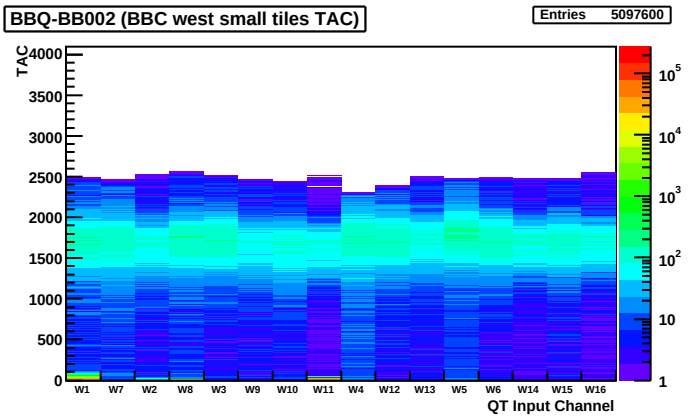

L1-TF201
Entries 318600
10^5
10^4
10^3
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

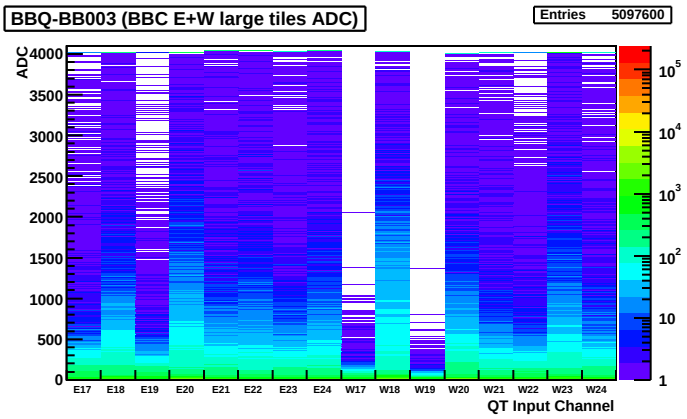

L1-TF201
Entries 1911600
Threshold bits
1
0
410
498
410
422
371
350
318190
318102
318190
318178
318229
318250
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^5
10^4
10^3

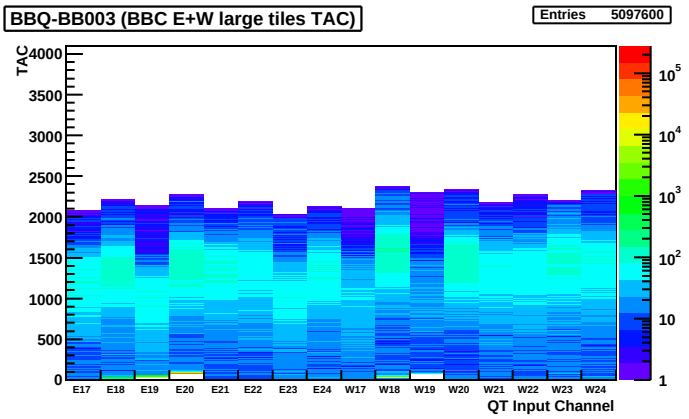

BBQ-BB001 (BBC east small tiles ADC)
Entries 5097600
ADC
QT Input Channel

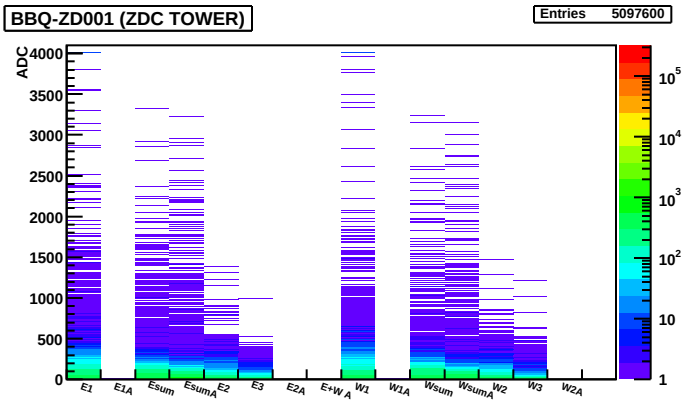

BBQ-BB001 (BBC east small tiles TAC)
Entries 5097600
TAC
QT Input Channel

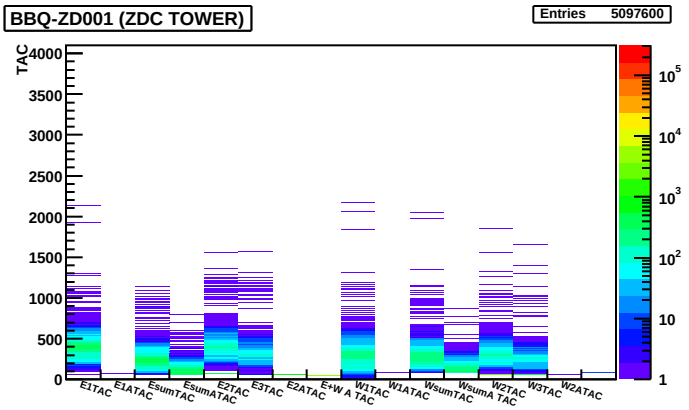

BBQ-BB002 (BBC west small tiles ADC)
Entries 5097600
ADC
QT Input Channel

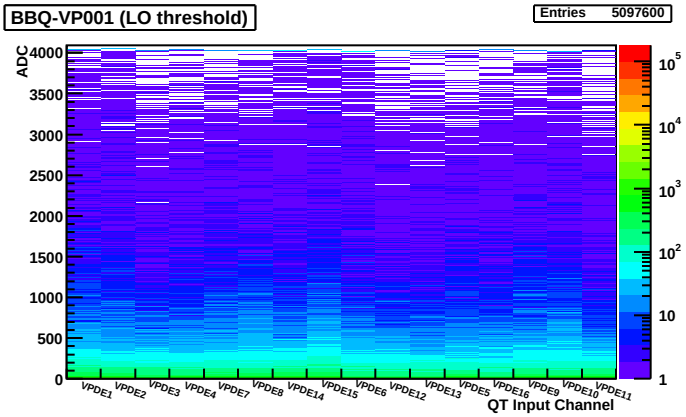

BBQ-BB002 (BBC west small tiles TAC)
Entries 5097600
TAC
QT Input Channel

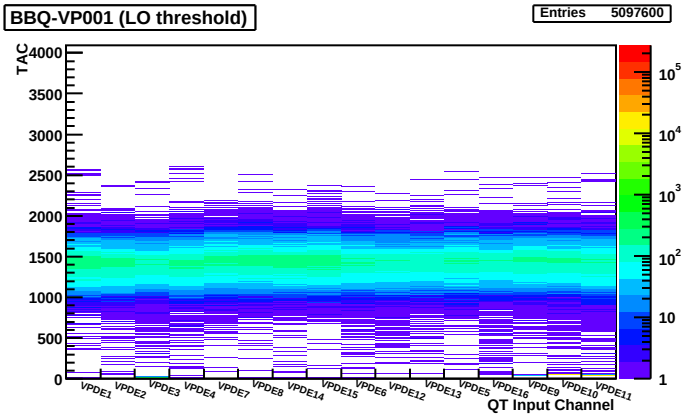

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 5097600
ADC
QT Input Channel

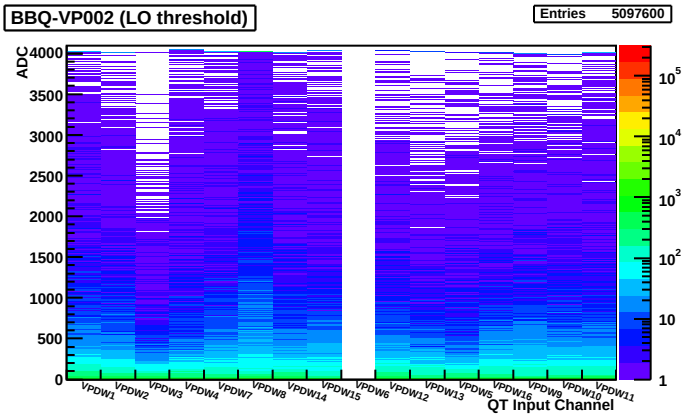

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 5097600
TAC
QT Input Channel

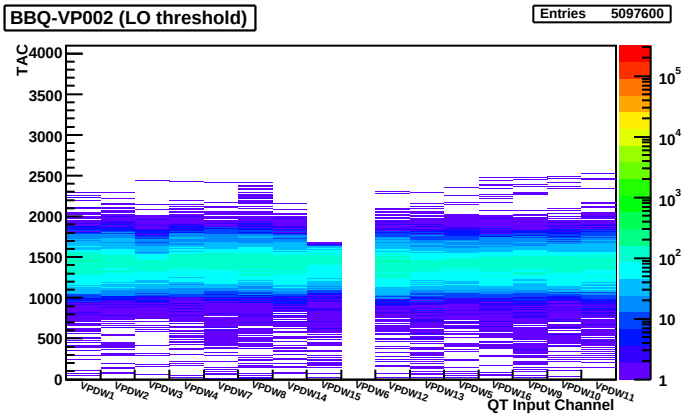

BBQ-ZD001 (ZDC TOWER)
Entries 5097600
ADC

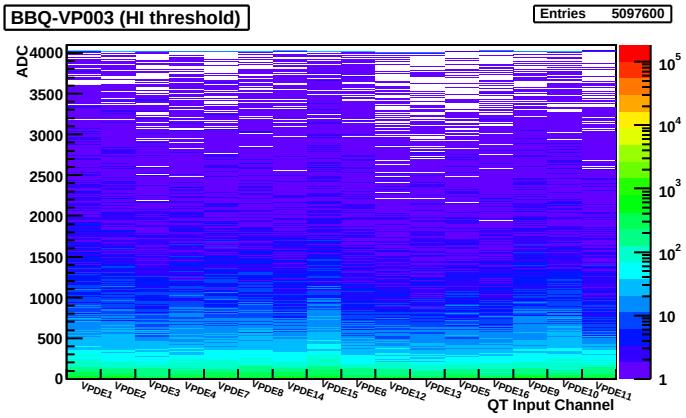

BBQ-ZD001 (ZDC TOWER)
Entries 5097600
TAC

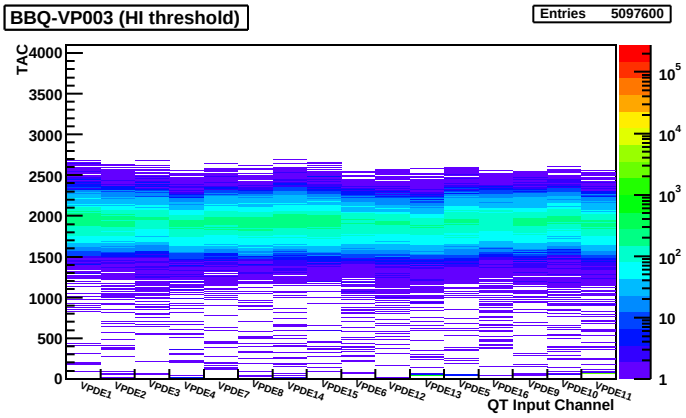

BBQ-VP001 (LO threshold)
Entries 5097600
ADC
QT Input Channel

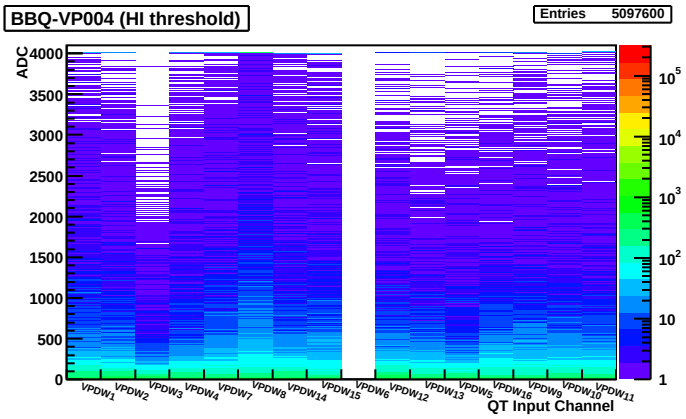

BBQ-VP001 (LO threshold)
Entries 5097600
TAC
QT Input Channel

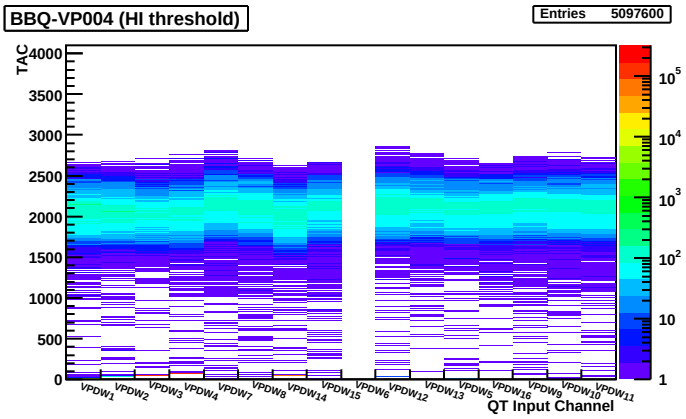

BBQ-VP002 (LO threshold)
Entries 5097600
ADC
QT Input Channel

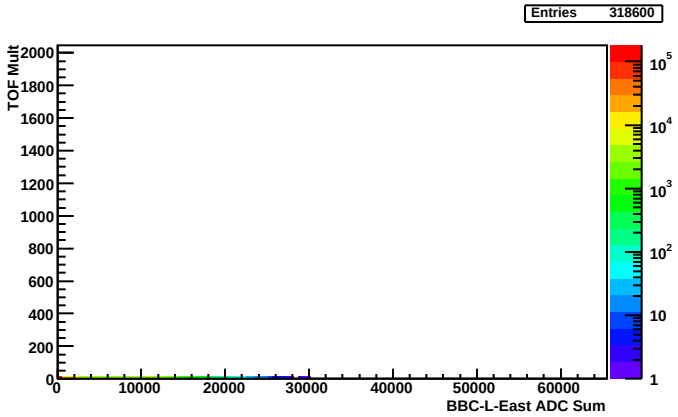

BBQ-VP002 (LO threshold)
Entries 5097600
TAC
QT Input Channel

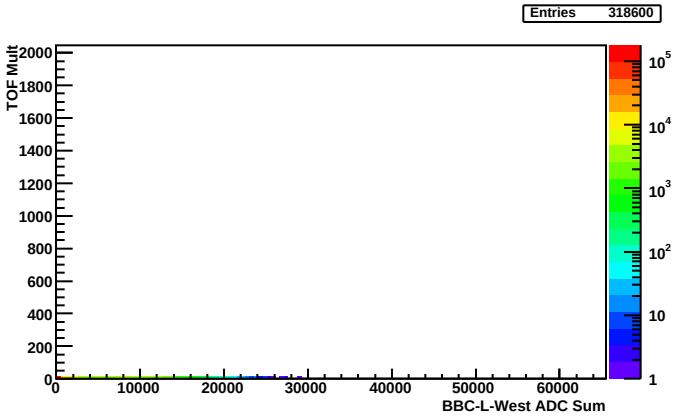

BBQ-VP003 (HI threshold)
Entries 5097600
ADC
QT Input Channel

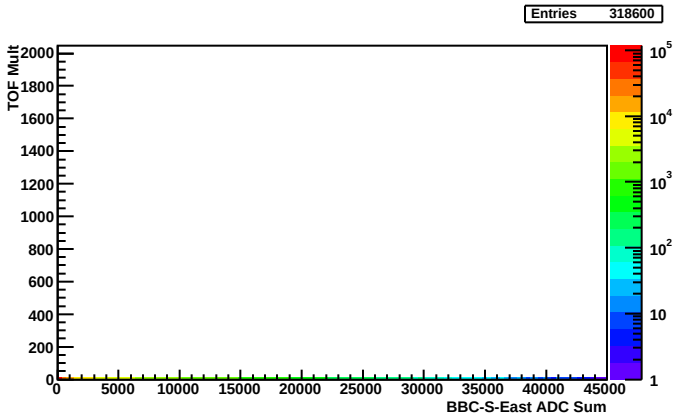

BBQ-VP003 (HI threshold)
Entries 5097600
TAC
QT Input Channel

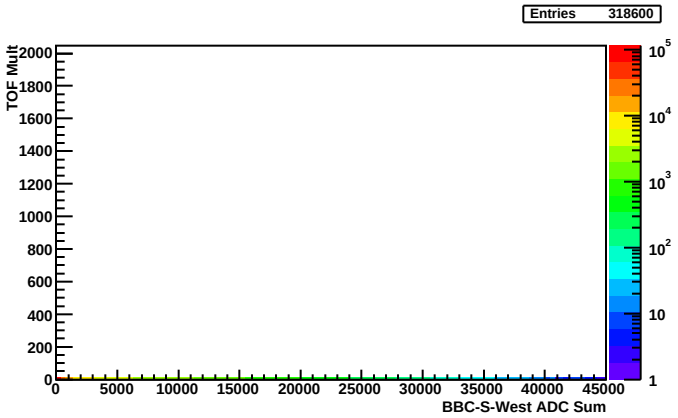

BBQ-VP004 (HI threshold)
Entries 5097600
ADC
QT Input Channel

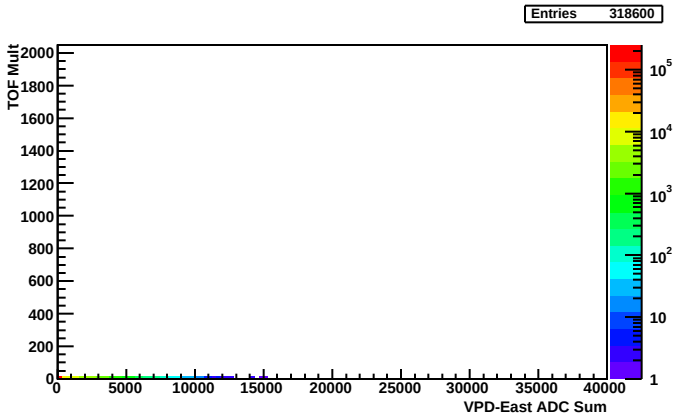

BBQ-VP004 (HI threshold)
Entries 5097600
TAC
QT Input Channel

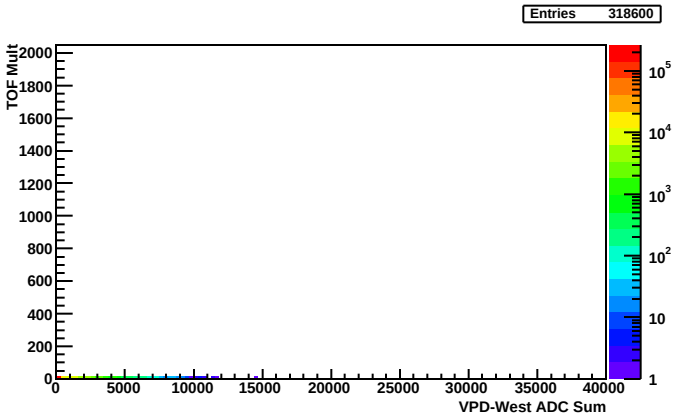

Entries 318600
TOF Mult
BBC-L-East ADC Sum

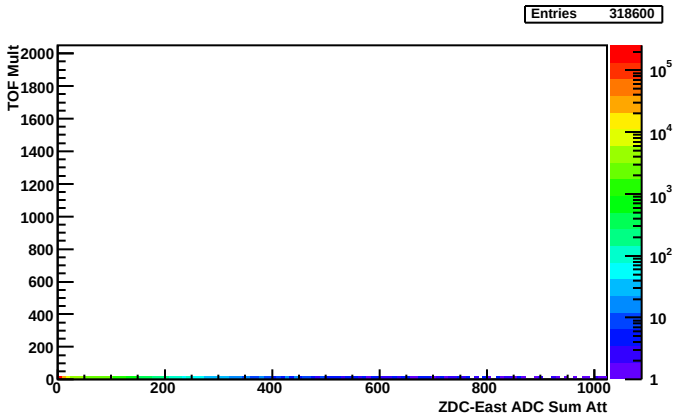

Entries 318600
TOF Mult
BBC-L-West ADC Sum

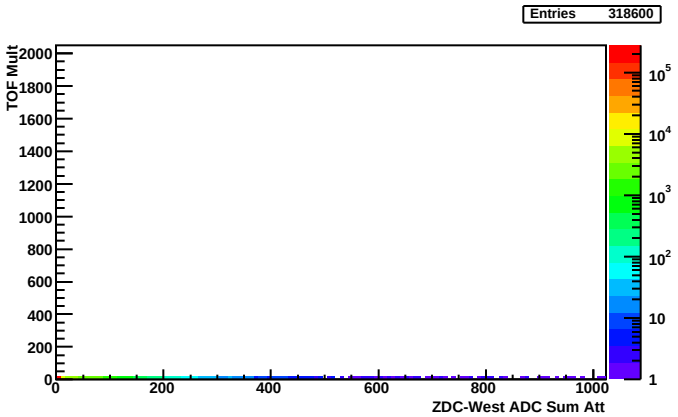

Entries 318600
TOF Mult
BBC-S-East ADC Sum

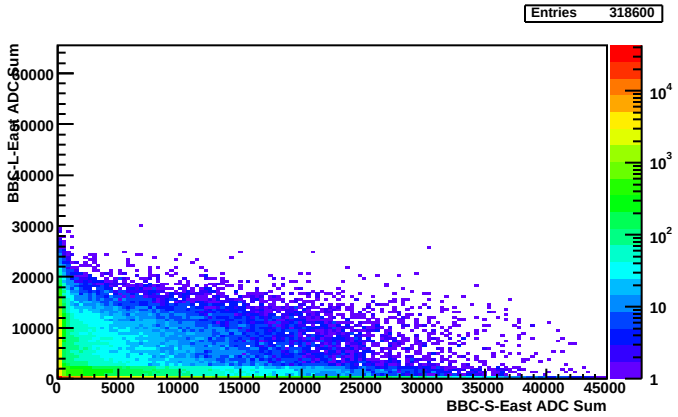

Entries 318600
TOF Mult
BBC-S-West ADC Sum

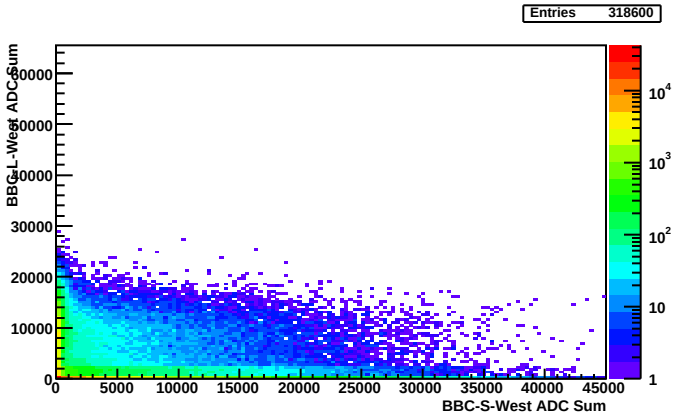

Entries 318600
TOF Mult
VPD-East ADC Sum

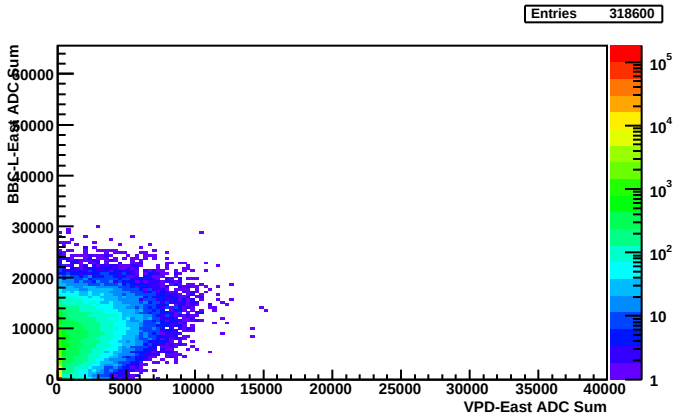

Entries 318600
TOF Mult
VPD-West ADC Sum

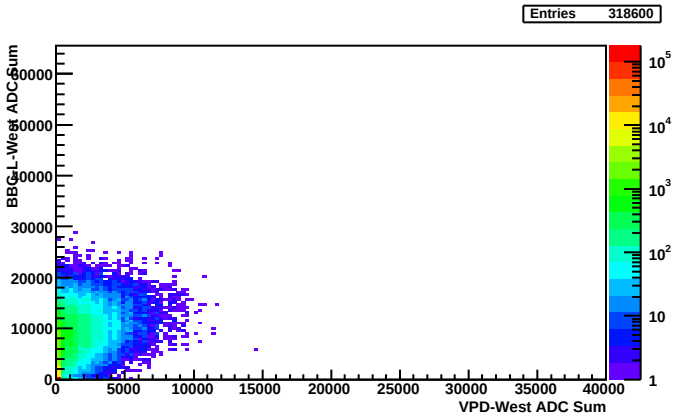

Entries 318600
TOF Mult
ZDC-East ADC Sum Att

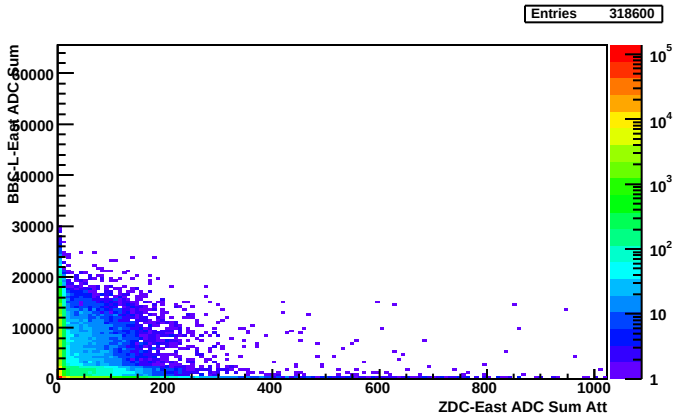

Entries 318600
TOF Mult
ZDC-West ADC Sum Att

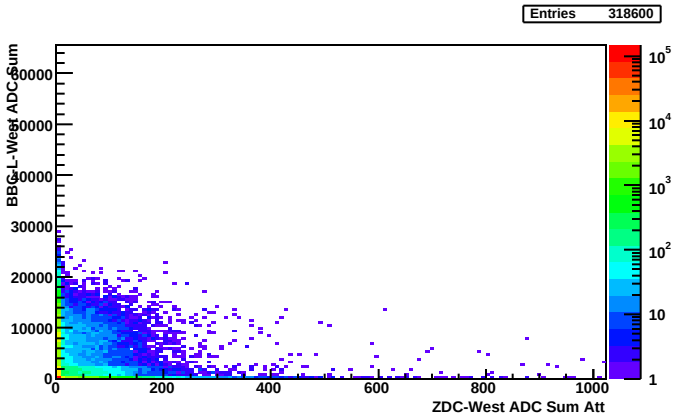

Entries 318600
BBC-L-East ADC Sum
BBC-S-East ADC Sum

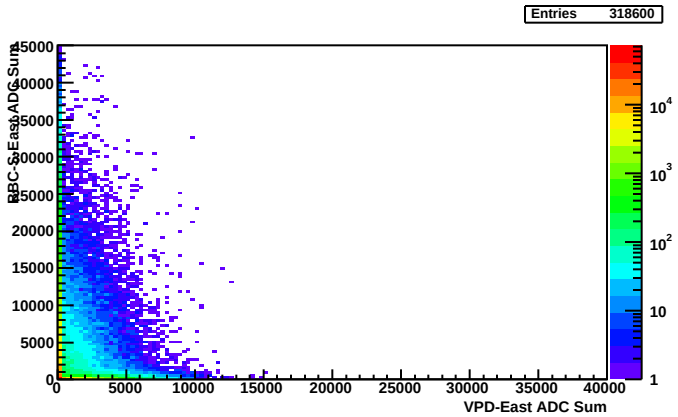

Entries 318600
BBC-L-West ADC Sum
BBC-S-West ADC Sum

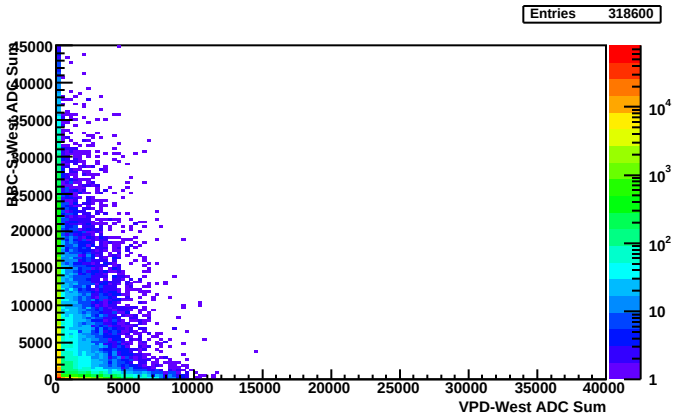

Entries 318600
BBC-L-East ADC Sum
VPD-East ADC Sum

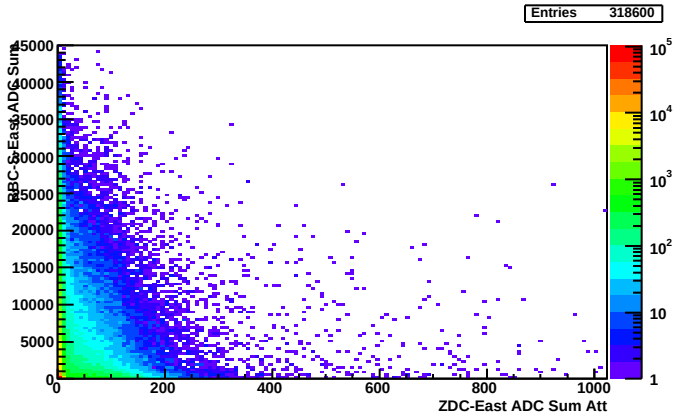

Entries 318600
BBC-L-West ADC Sum
VPD-West ADC Sum

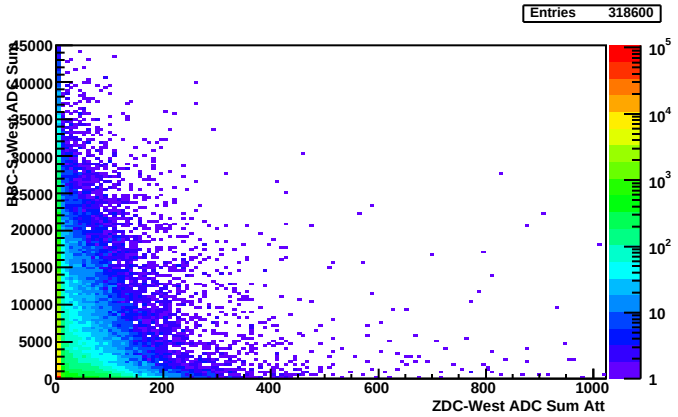

Entries 318600
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

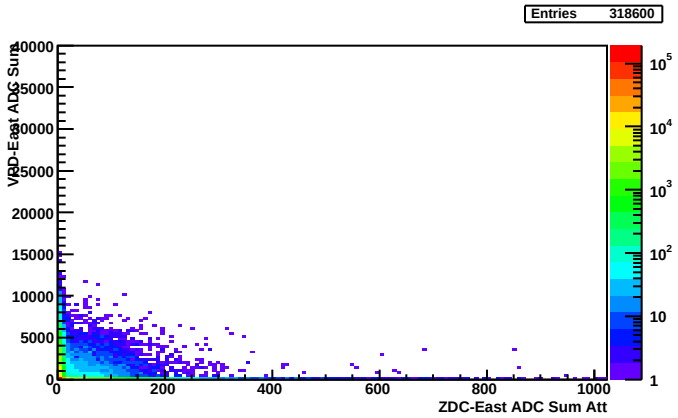

Entries 318600
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

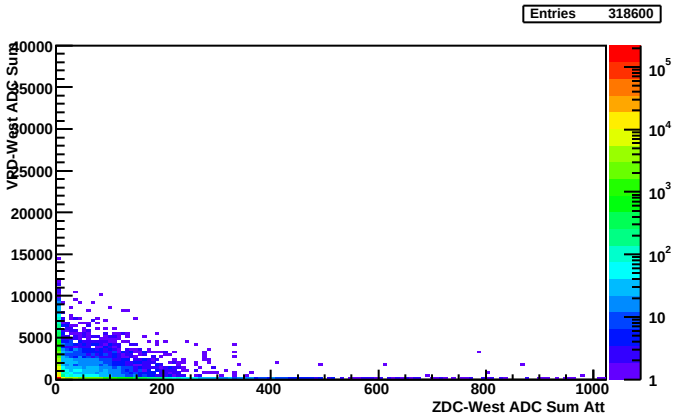

Entries 318600
BBC-S-East ADC Sum
VPD-East ADC Sum

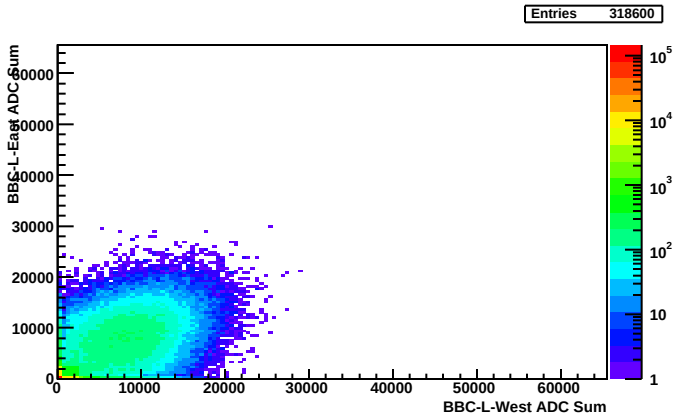

Entries 318600
BBC-S-West ADC Sum
VPD-West ADC Sum

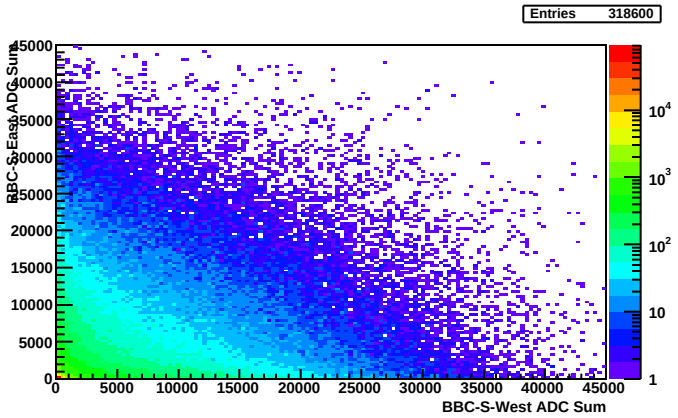

Entries 318600
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

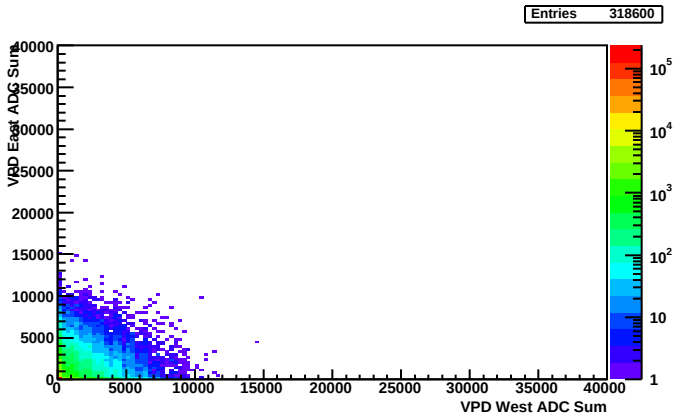

Entries 318600
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

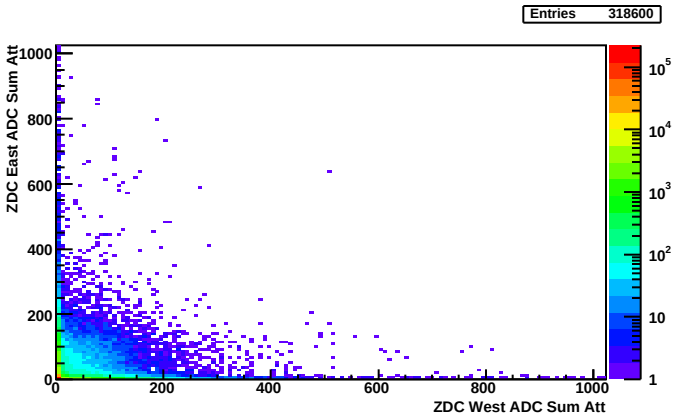

Entries 318600
VPD-East ADC Sum
ZDC-East ADC Sum Att

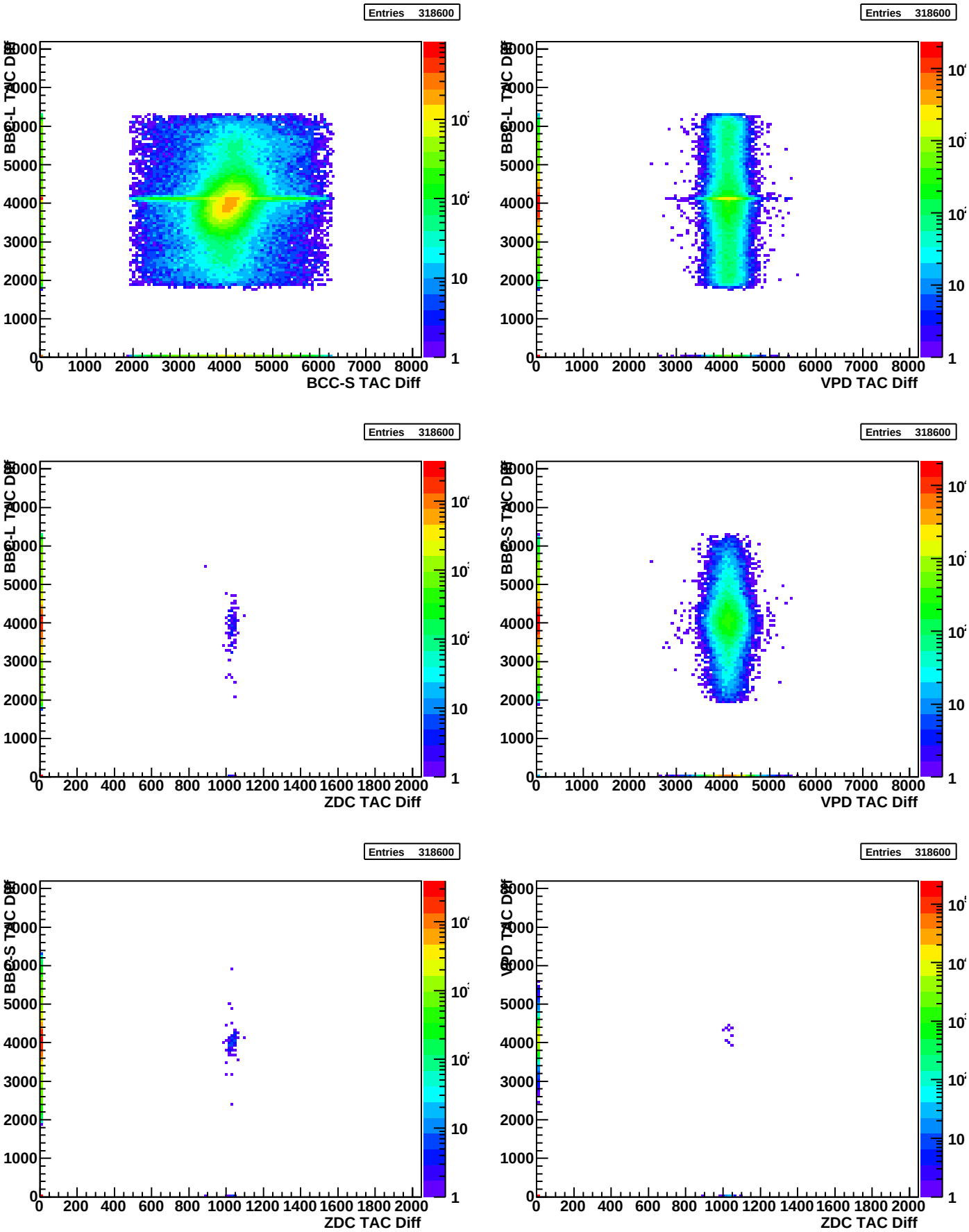

Entries 318600
VPD-West ADC Sum
ZDC-West ADC Sum Att

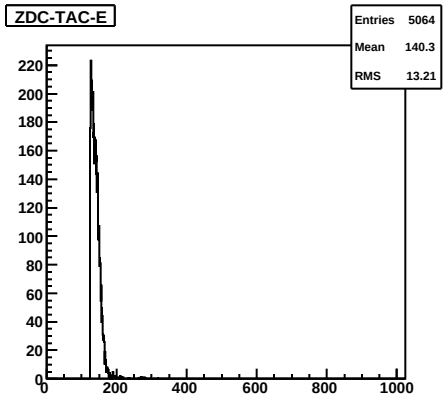

Entries 318600
BBC-L-East ADC Sum
BBC-L-West ADC Sum

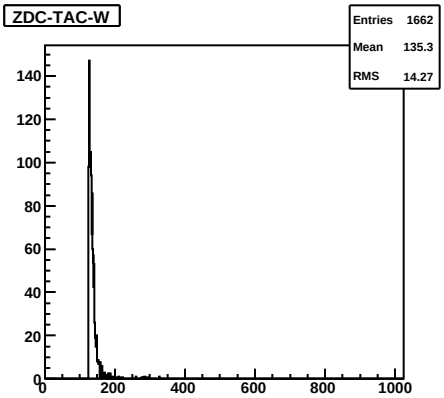

Entries 318600
BBC-S-East ADC Sum
BBC-S-West ADC Sum

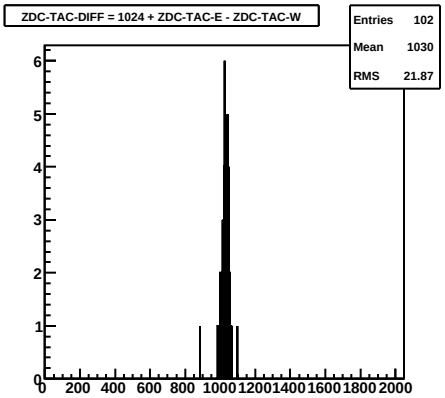

Entries 318600
VPD East ADC Sum
VPD West ADC Sum

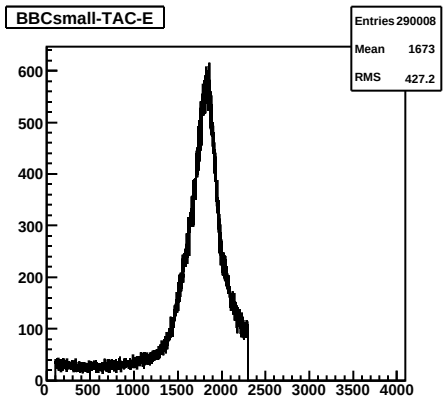

Entries 318600
ZDC East ADC Sum Att
ZDC West ADC Sum Att

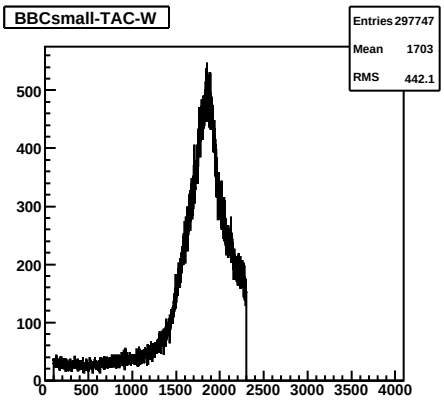

Entries 318600
BBC-L TAC Diff
BCC-S TAC Diff
Entries 318600
BBC-L TAC Diff
VPD TAC Diff
Entries 318600
BBC-L TAC Diff
ZDC TAC Diff
Entries 318600
BBC-S TAC Diff
VPD TAC Diff
Entries 318600
BBC-S TAC Diff
ZDC TAC Diff
Entries 318600
VPD TAC Diff
ZDC TAC Diff

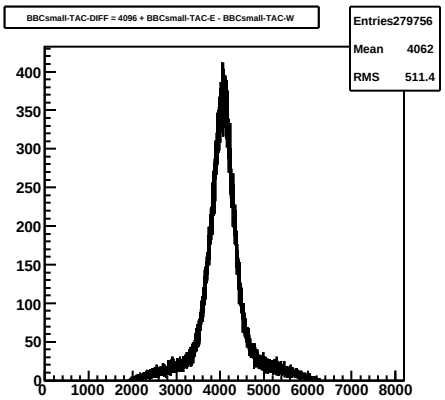

ZDC-TAC-E
Entries 5064
Mean 140.3
RMS 13.21

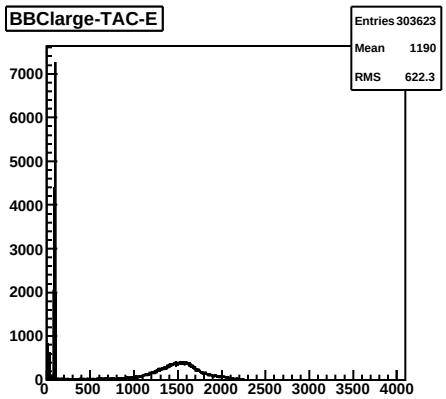

ZDC-TAC-W
Entries 1662
Mean 135.3
RMS 14.27

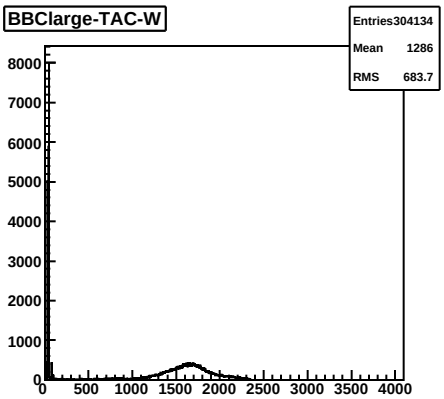

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 102
Mean 1030
RMS 21.87

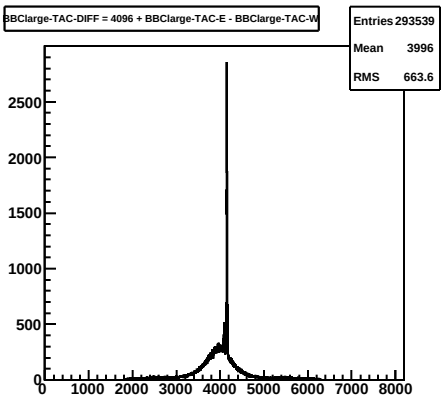

BBCsmall-TAC-E
Entries 290008
Mean 1673
RMS 427.2

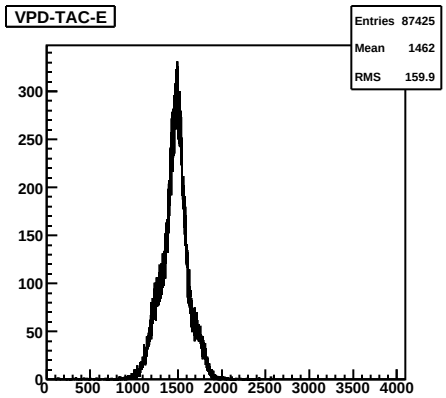

BBCsmall-TAC-W
Entries 297747
Mean 1703
RMS 442.1

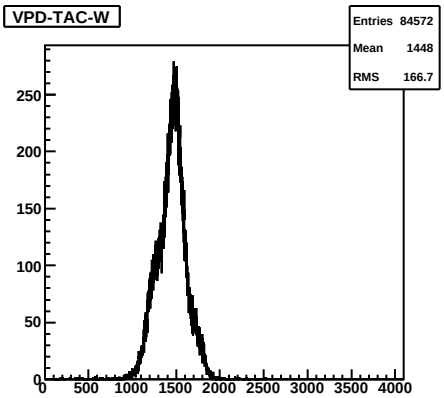

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 279756
Mean 4062
RMS 511.4

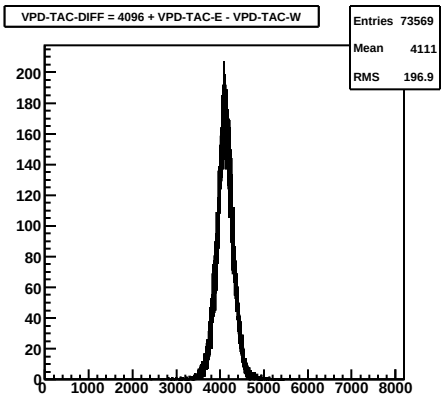

BBClarge-TAC-E
Entries 303623
Mean 1190
RMS 622.3

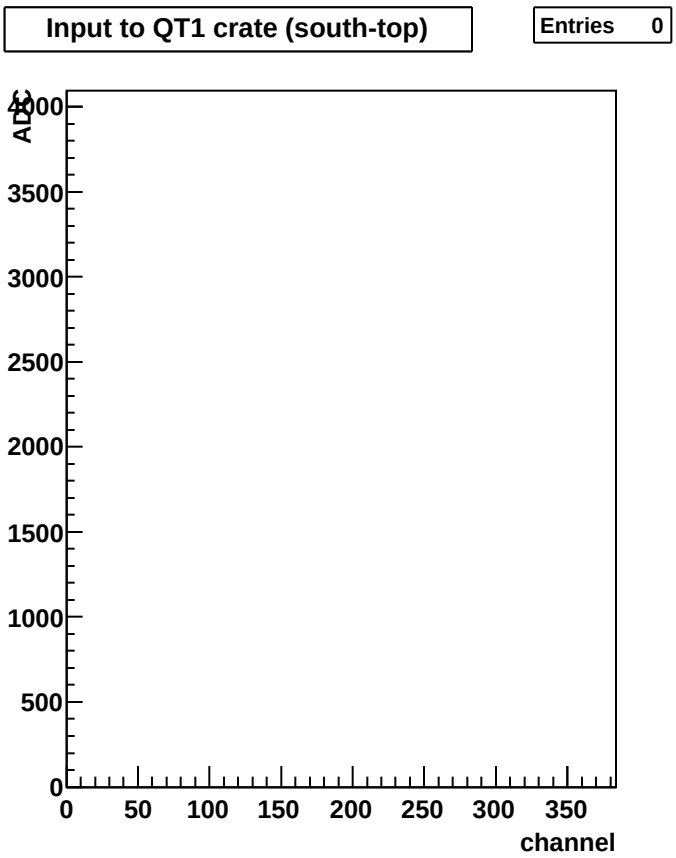

BBClarge-TAC-W
Entries 304134
Mean 1286
RMS 683.7

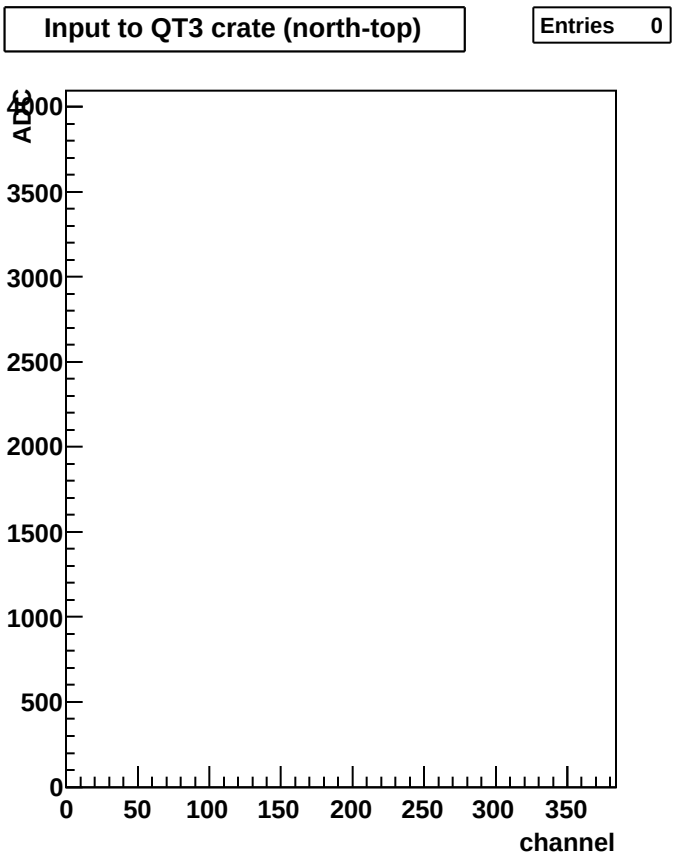

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 293539
Mean 3996
RMS 663.6

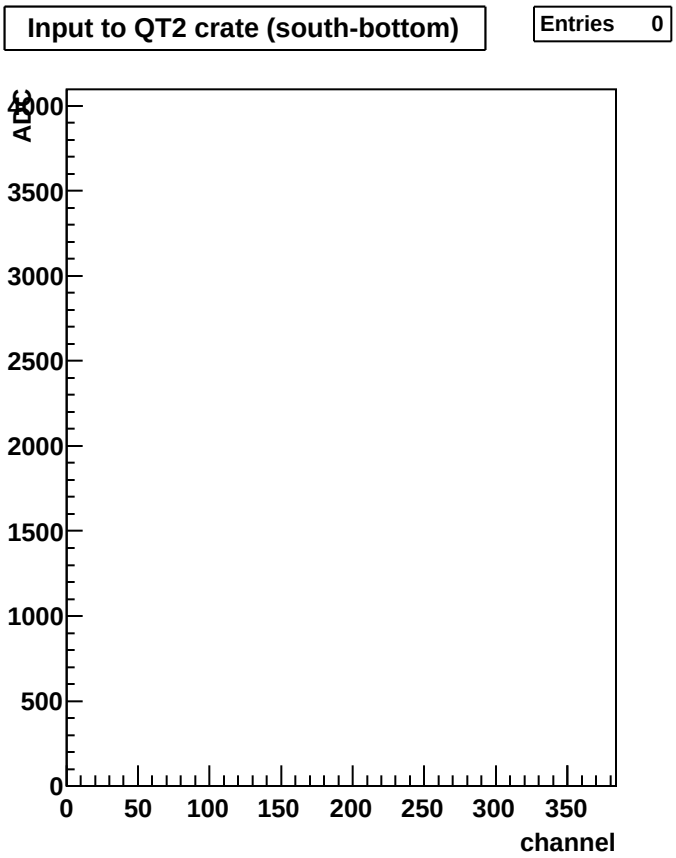

VPD-TAC-E
Entries 87425
Mean 1462
RMS 159.9

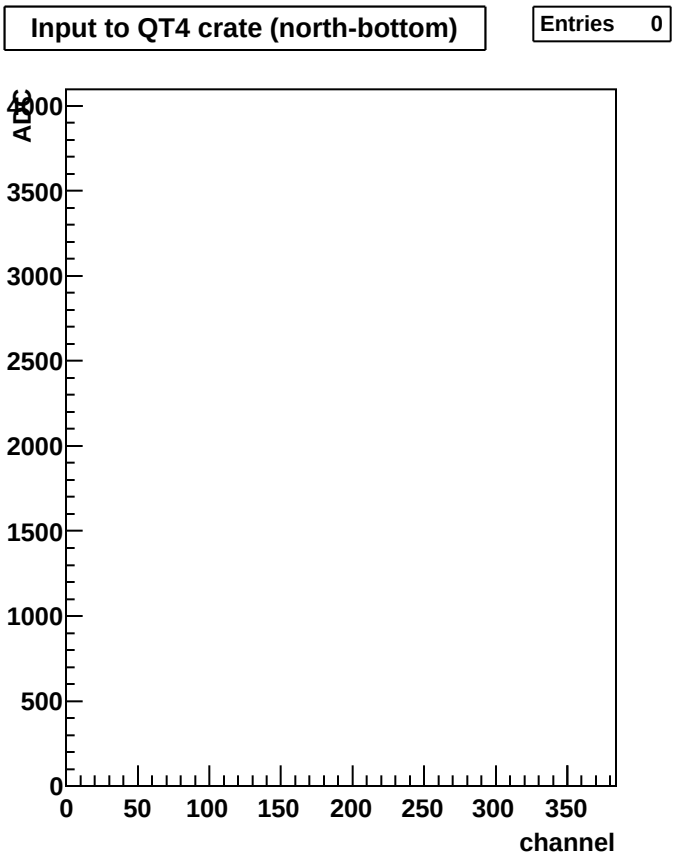

VPD-TAC-W
Entries 84572
Mean 1448
RMS 166.7

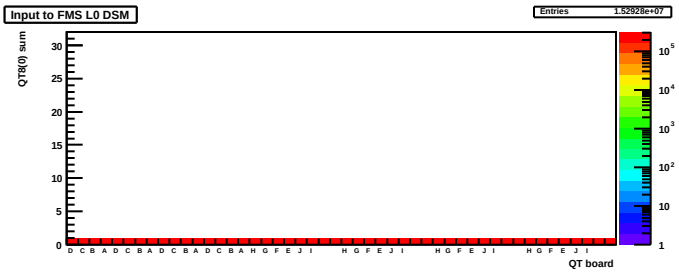

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 73569
Mean 4111
RMS 196.9

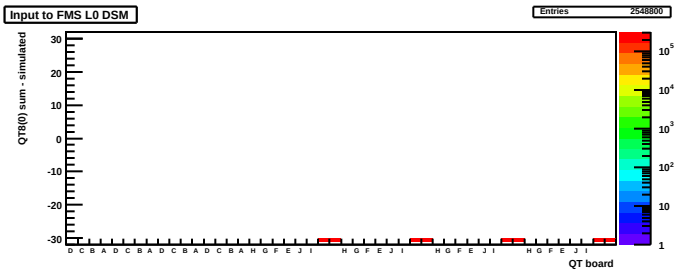

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

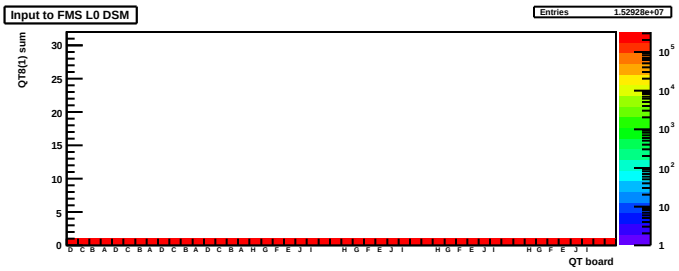

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

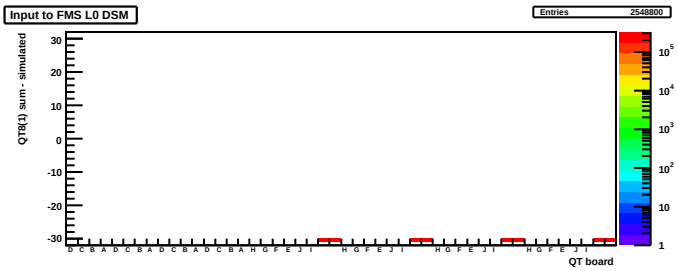

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

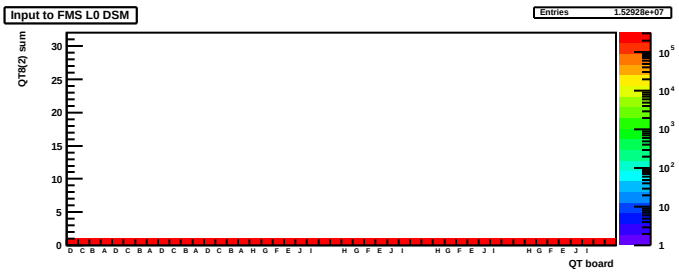

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

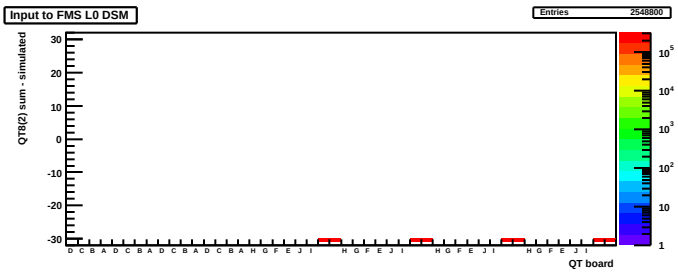

Input to FMS L0 DSM
Entries 1.52928e+07
QT8(0) sum
QT board

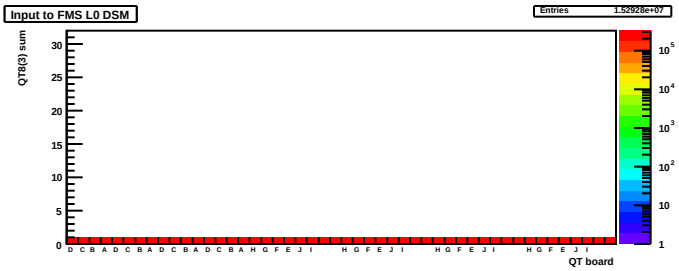

Input to FMS L0 DSM
Entries 2548800
QT8(0) sum - simulated
QT board

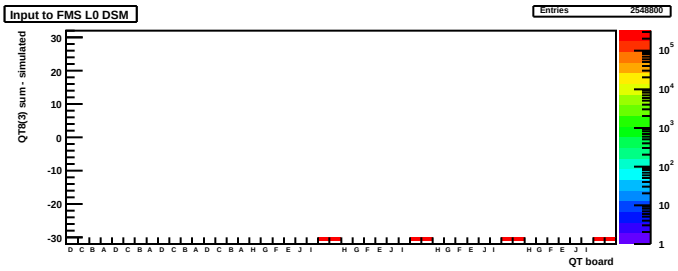

Input to FMS L0 DSM
Entries 1.52928e+07
QT8(1) sum
QT board

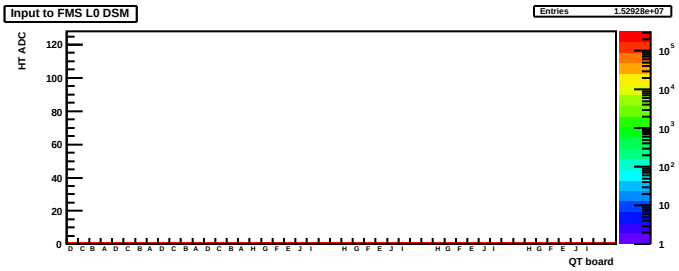

Input to FMS L0 DSM
Entries 2548800
QT8(1) sum - simulated
QT board

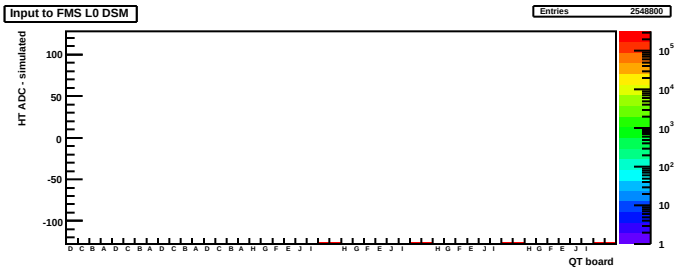

Input to FMS L0 DSM
Entries 1.52928e+07
QT8(2) sum
QT board

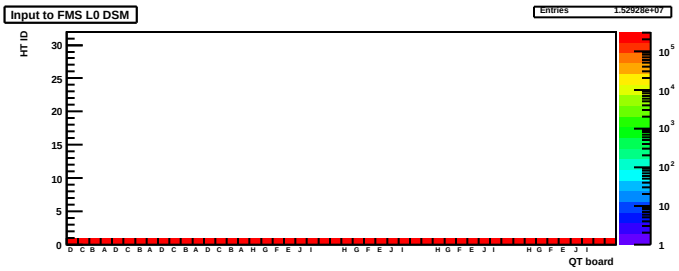

Input to FMS L0 DSM
Entries 2548800
QT8(2) sum - simulated
QT board

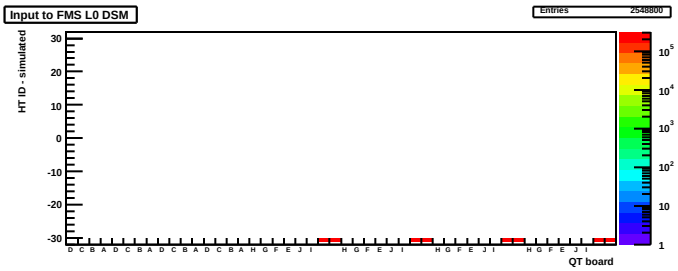

Input to FMS L0 DSM
Entries 1.52928e+07
QT8(3) sum
QT board

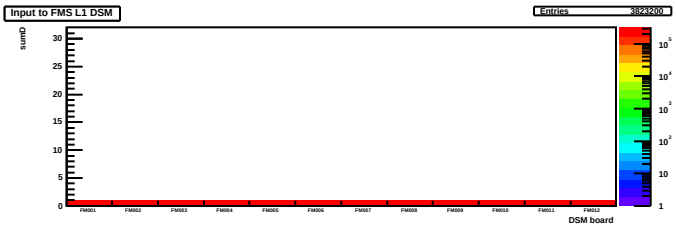

Input to FMS L0 DSM
Entries 2548800
QT8(3) sum - simulated
QT board

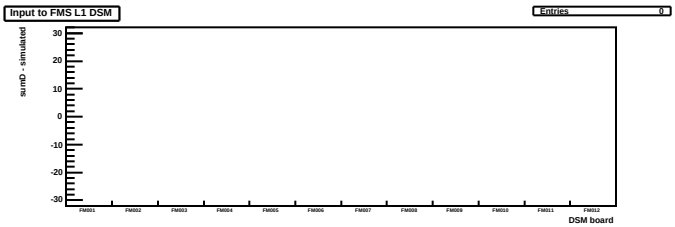

Input to FMS L0 DSM
Entries 1.52928e+07
HT ADC
QT board

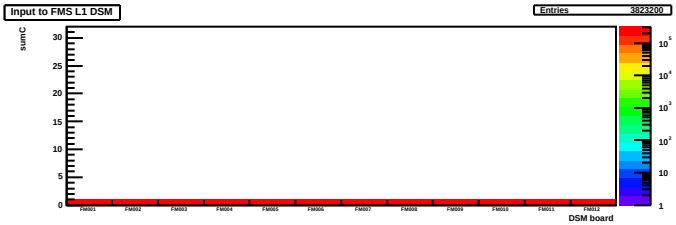

Input to FMS L0 DSM
Entries 2548800
HT ADC - simulated
QT board

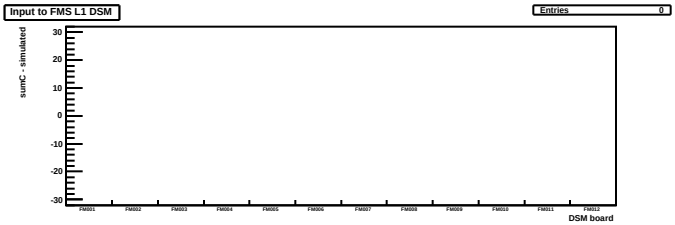

Input to FMS L0 DSM
Entries 1.52928e+07
HT ID
QT board

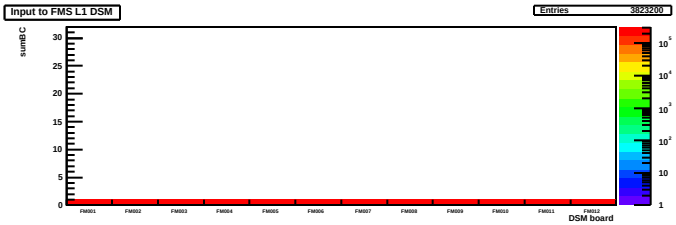

Input to FMS L0 DSM
Entries 2548800
HT ID - simulated
QT board

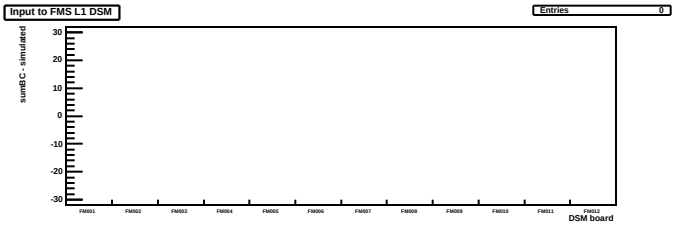

Input to FMS L1 DSM
Entries 3823200
sumD
DSM board

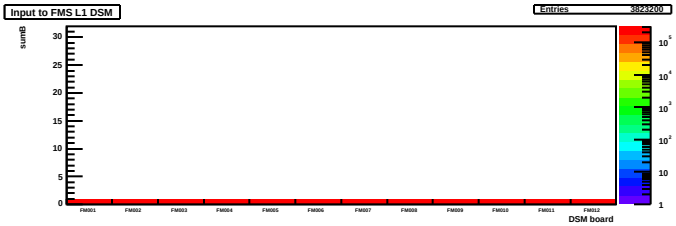

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

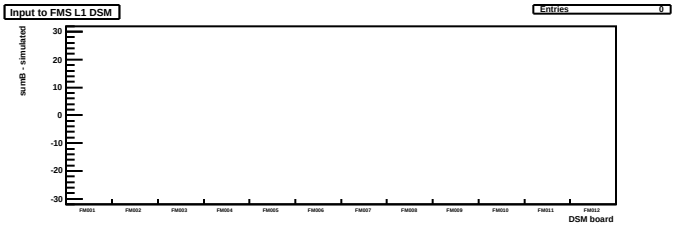

Input to FMS L1 DSM
Entries 3823200
sumC
DSM board

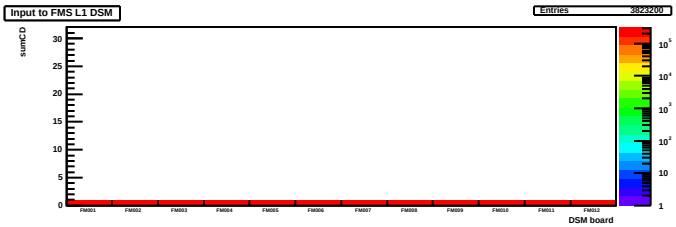

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

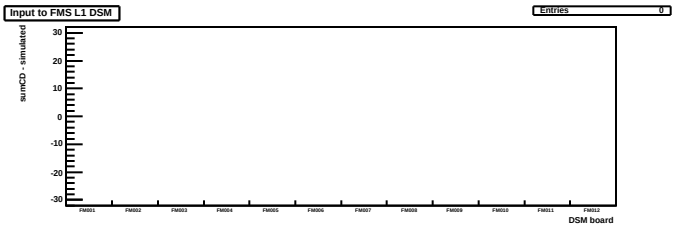

Input to FMS L1 DSM
Entries 3823200
sumBC
DSM board

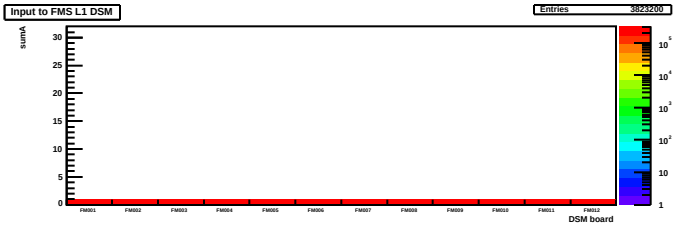

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

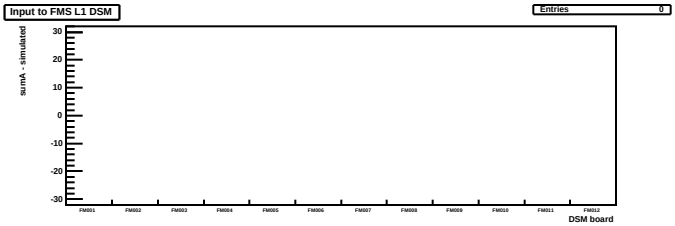

Input to FMS L1 DSM
Entries 3823200
sumB
DSM board

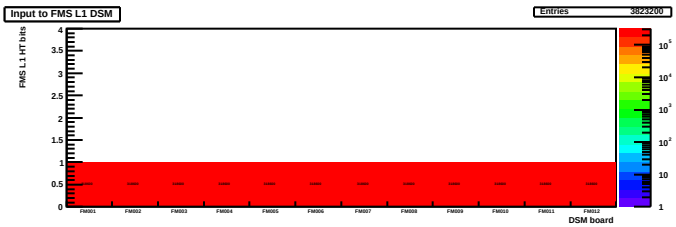

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

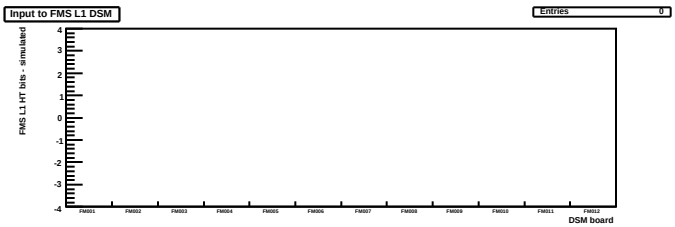

Input to FMS L1 DSM
Entries 3823200
sumCD
DSM board

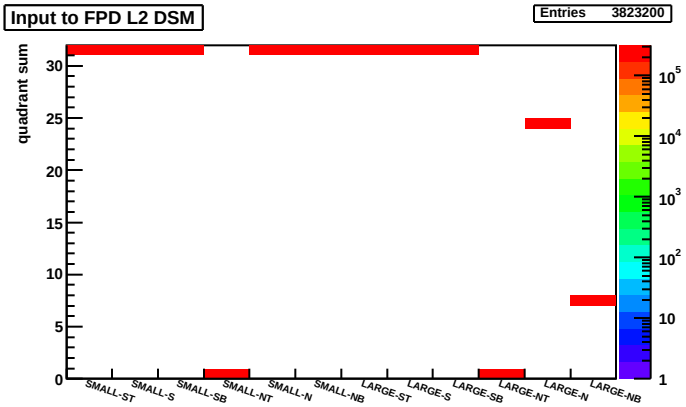

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

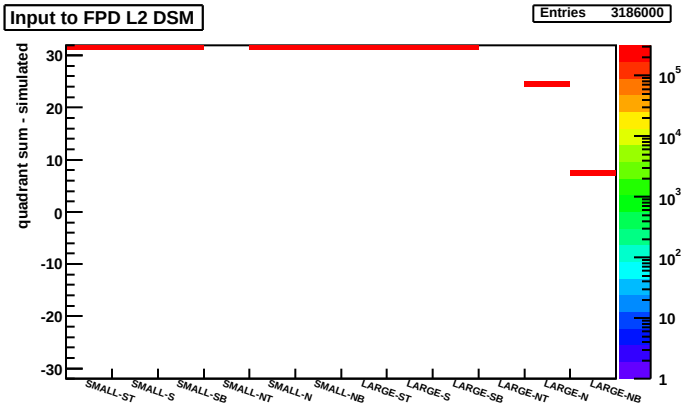

Input to FMS L1 DSM
Entries 3823200
sumA
DSM board

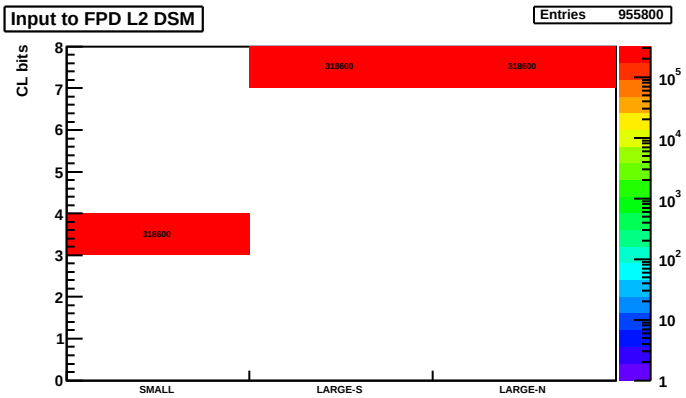

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

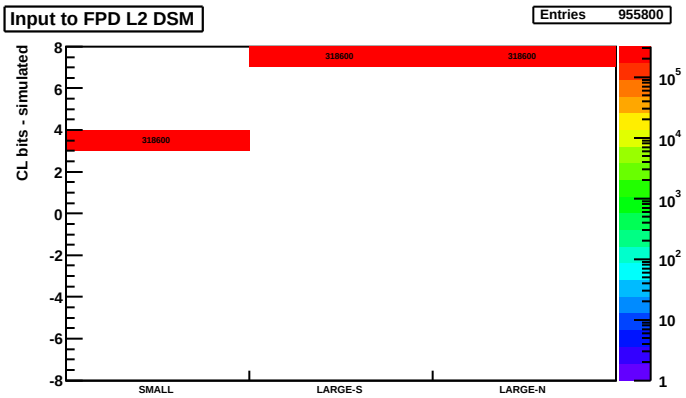

Input to FMS L1 DSM
Entries 3823200
FMS L1 HT bits
DSM board

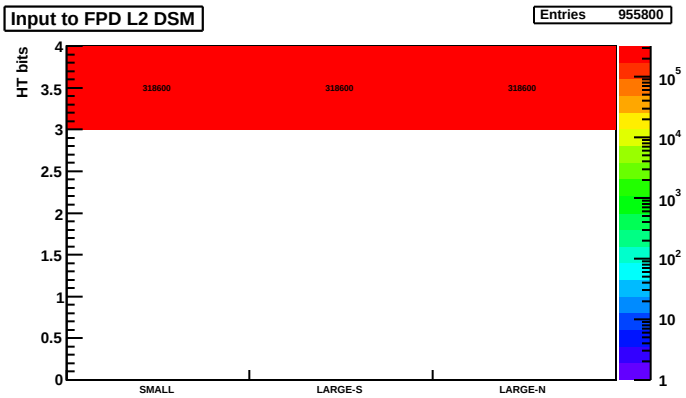

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

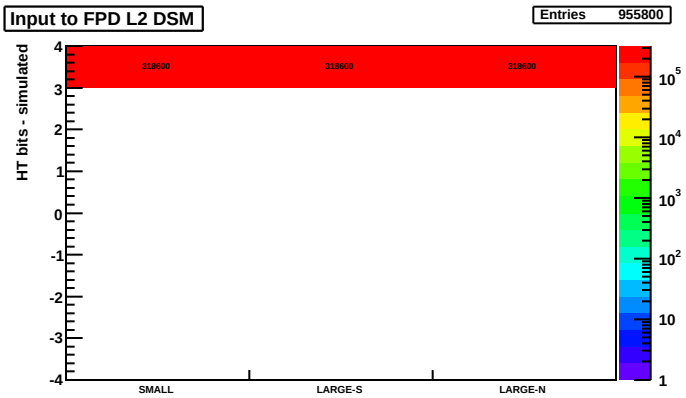

Input to FPD L2 DSM
Entries 3823200
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

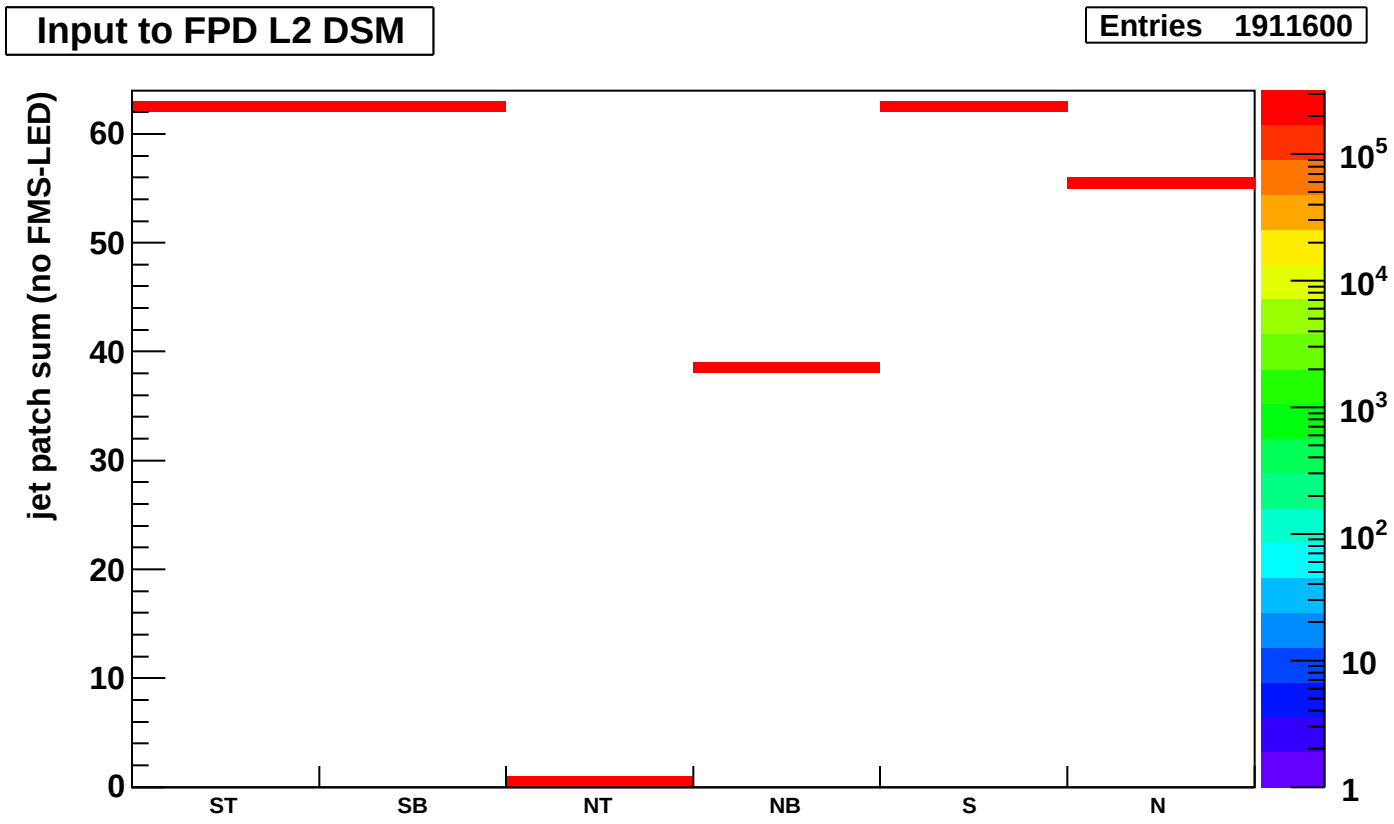

Input to FPD L2 DSM
Entries 3186000
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

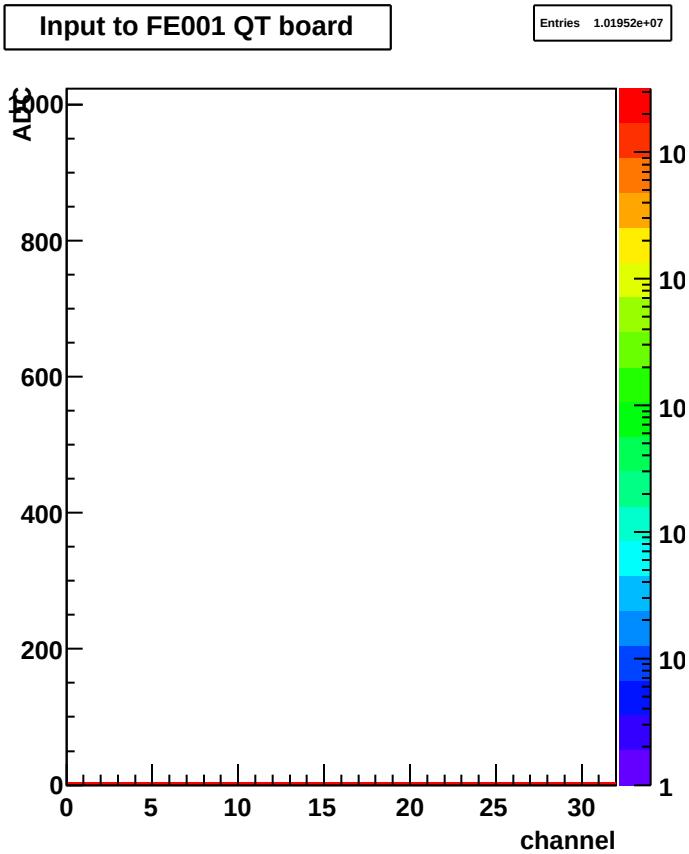

Input to FPD L2 DSM
Entries 955800
CL bits
318600
318600
318600
SMALL
LARGE-S
LARGE-N

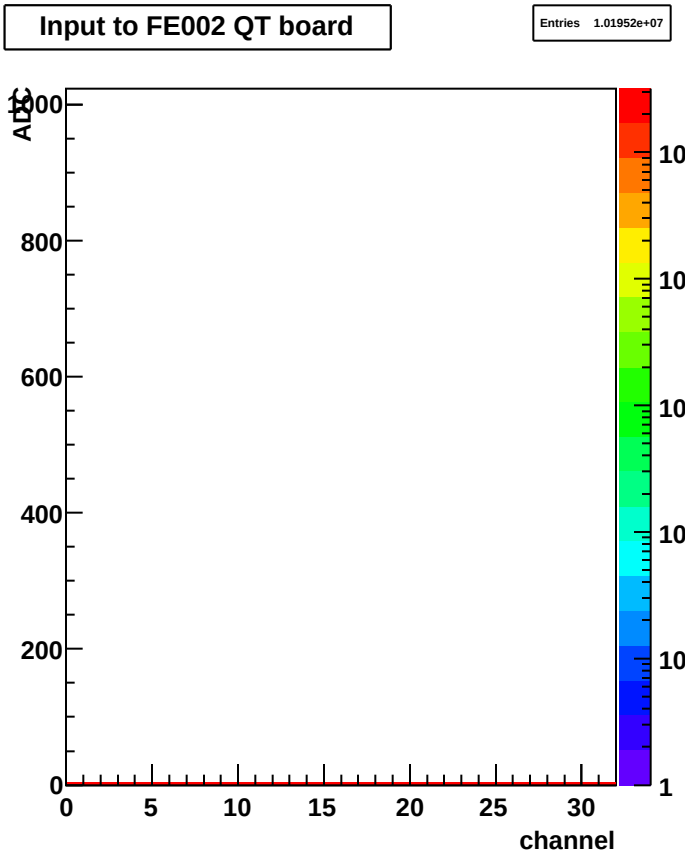

Input to FPD L2 DSM
Entries 955800
CL bits - simulated
318600
318600
318600
SMALL
LARGE-S
LARGE-N

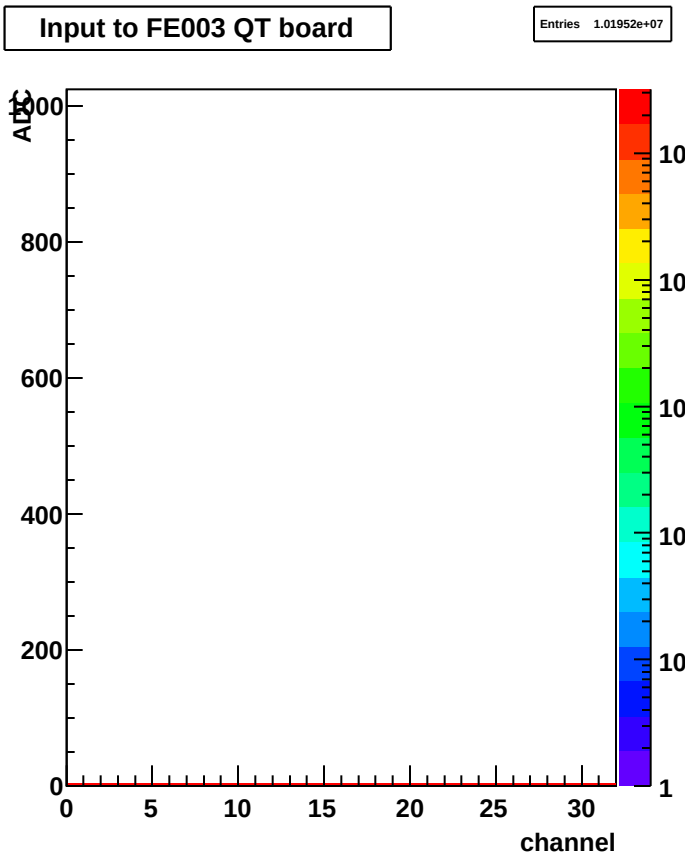

Input to FPD L2 DSM
Entries 955800
HT bits
318600
318600
318600
SMALL
LARGE-S
LARGE-N

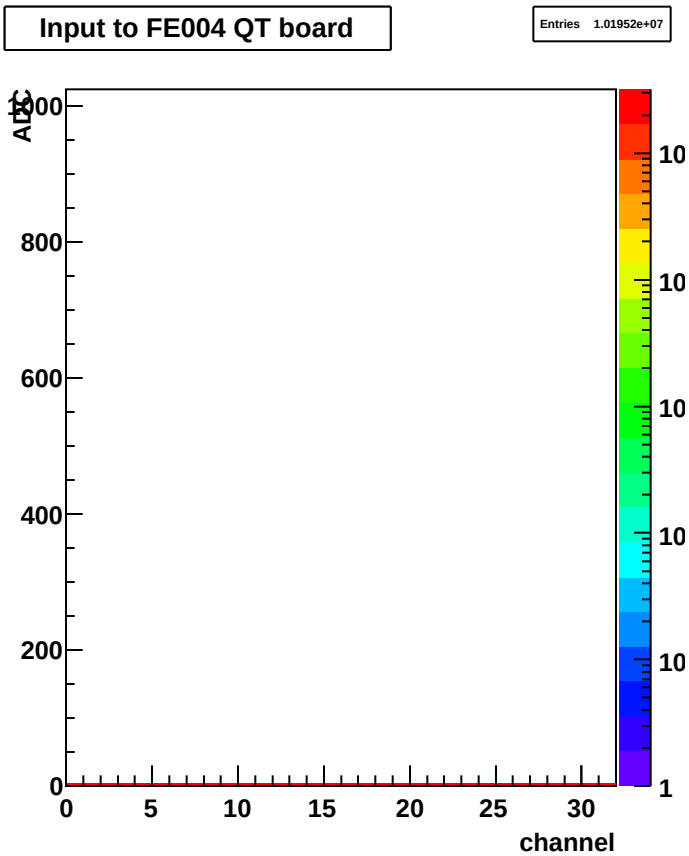

Input to FPD L2 DSM
Entries 955800
HT bits - simulated
318600
318600
318600
SMALL
LARGE-S
LARGE-N

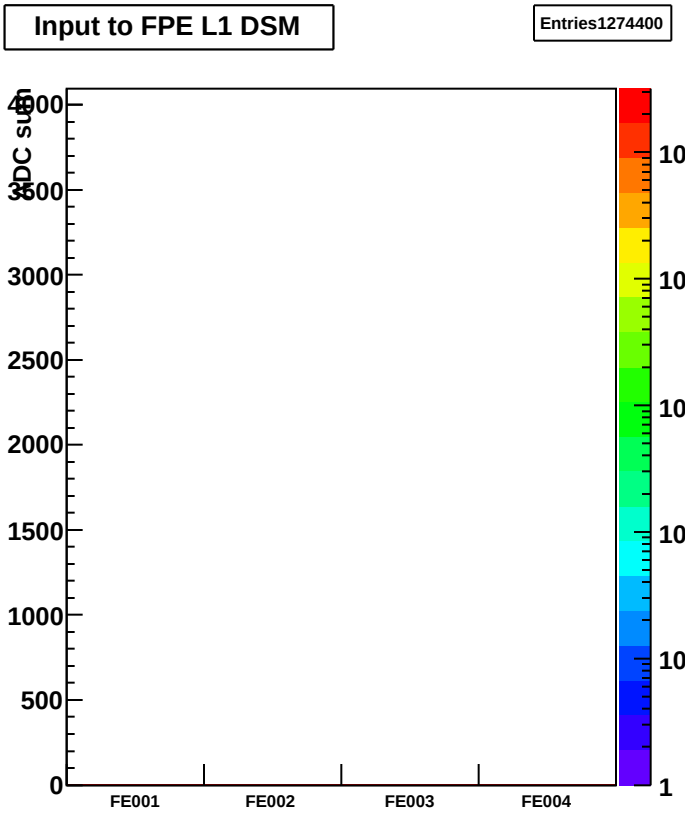

Input to FPD L2 DSM
Entries 1911600
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

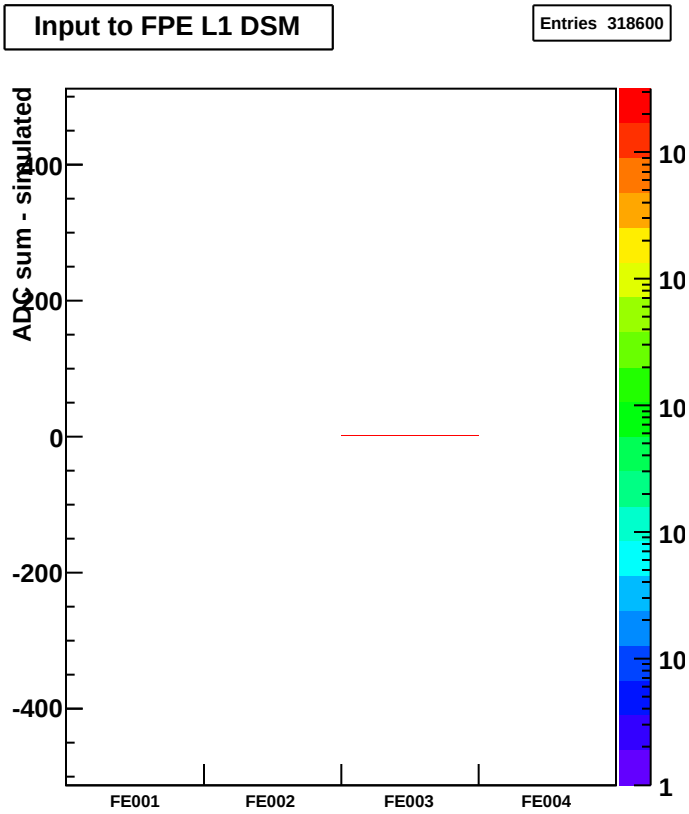

Input to FE001 QT board
Entries 1.01952e+07
ADC
channel


Input to FE002 QT board
Entries 1.01952e+07
ADC
channel

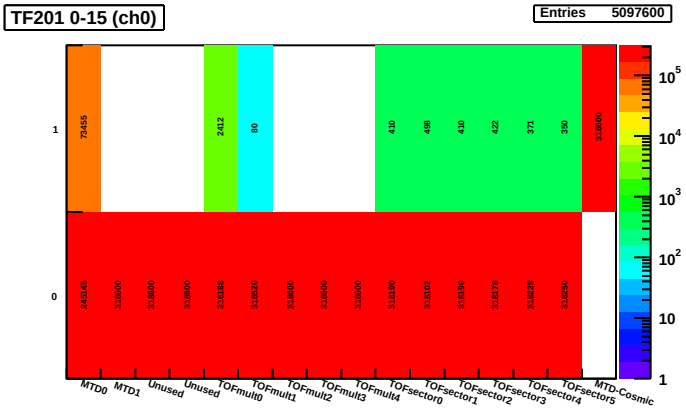

Input to FE003 QT board
Entries 1.01952e+07
ADC
channel


Input to FE004 QT board
Entries 1.01952e+07
ADC
channel

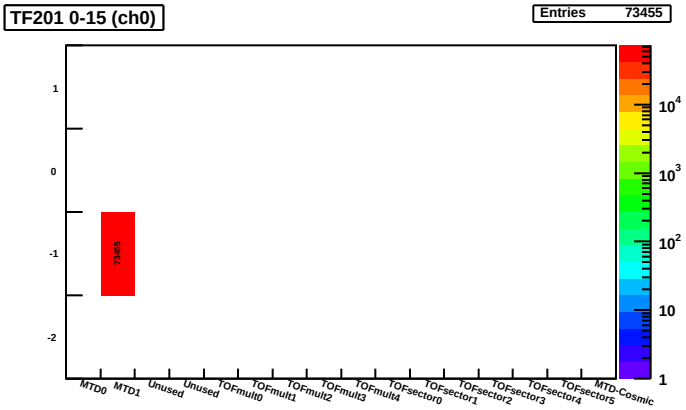

Input to FPE L1 DSM
Entries1274400
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1


Input to FPE L1 DSM
Entries 318600
ADC sum - simulated
200
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
1

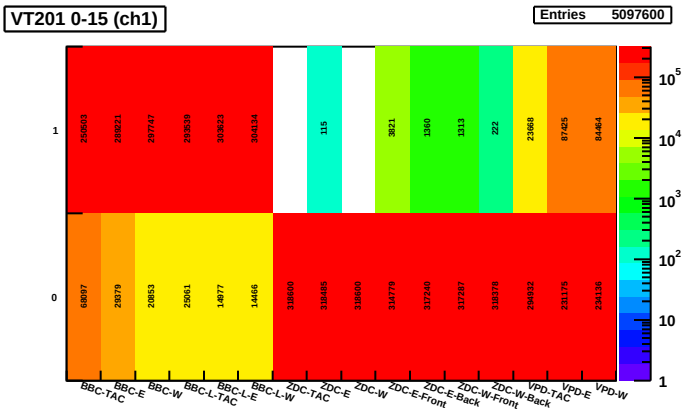
TF201 0-15 (ch0)



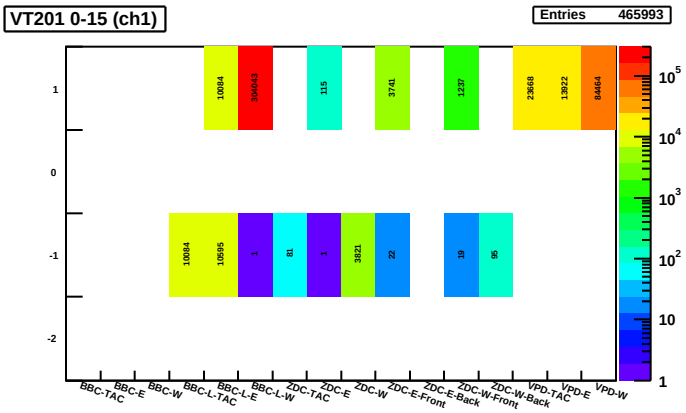
TF201 0-15 (ch0)



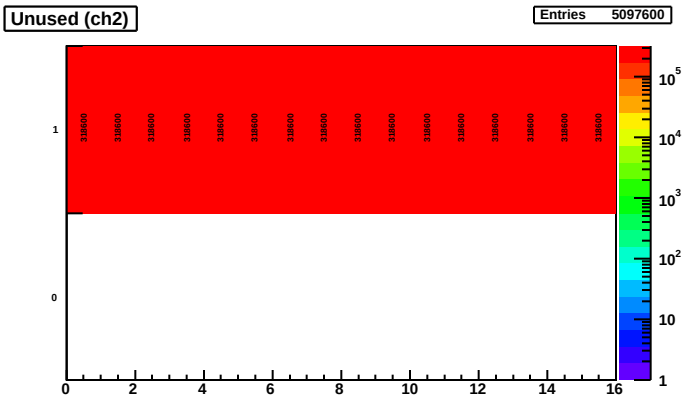
VT201 0-15 (ch1)

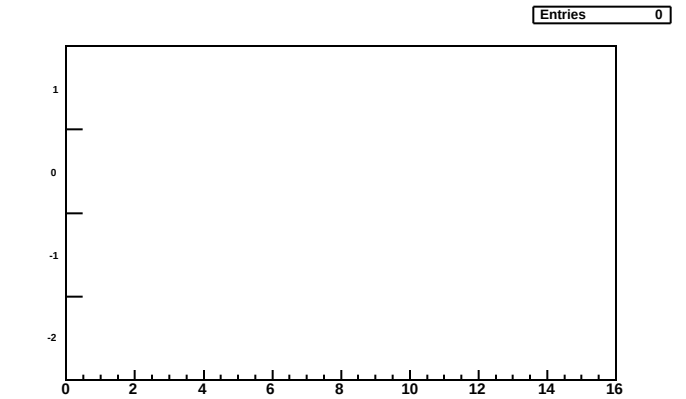


VT201 0-15 (ch1)

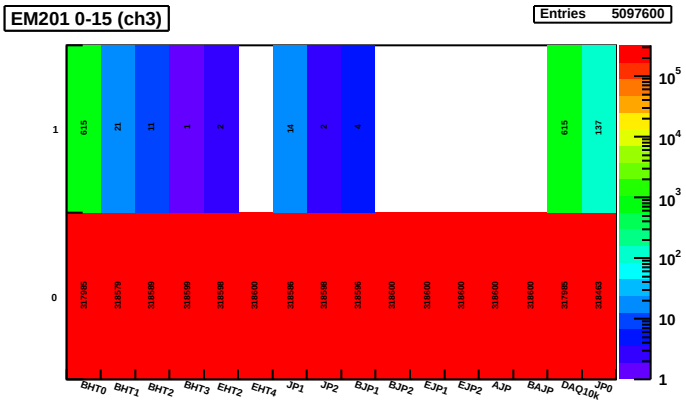


Unused (ch2)





EM201 0-15 (ch3)



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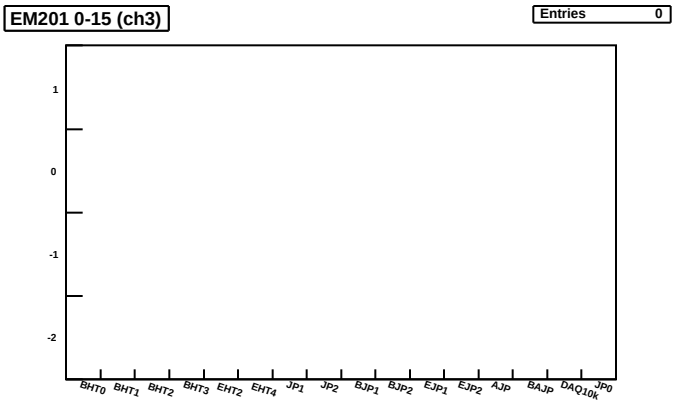
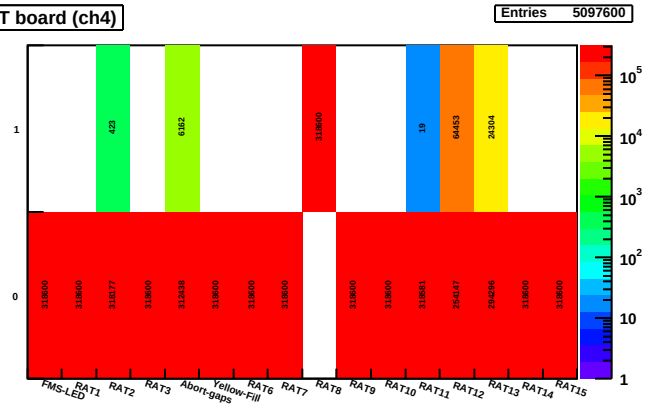
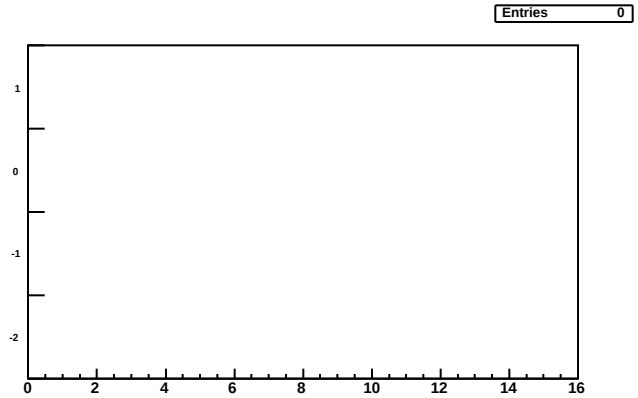
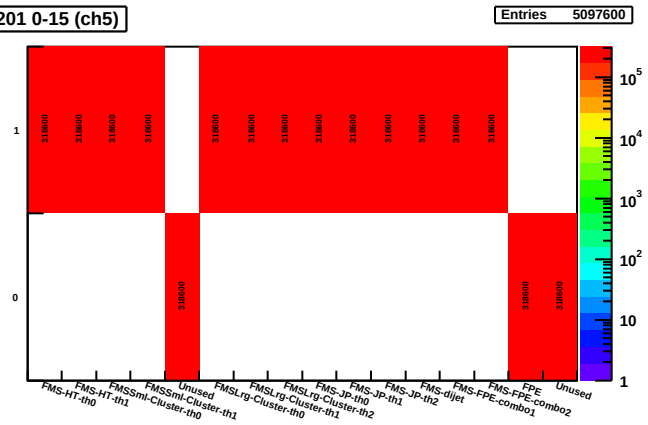


RAT board (ch4)

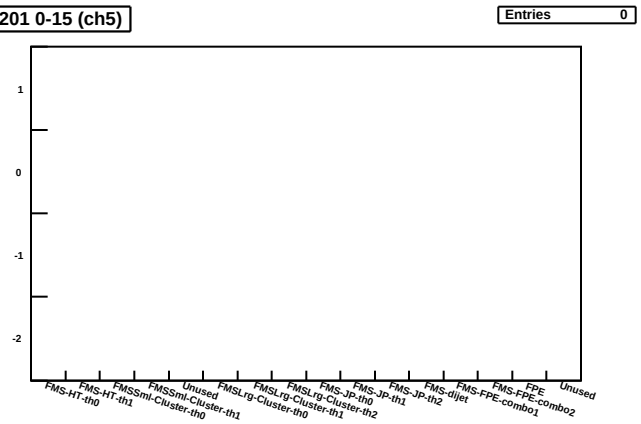




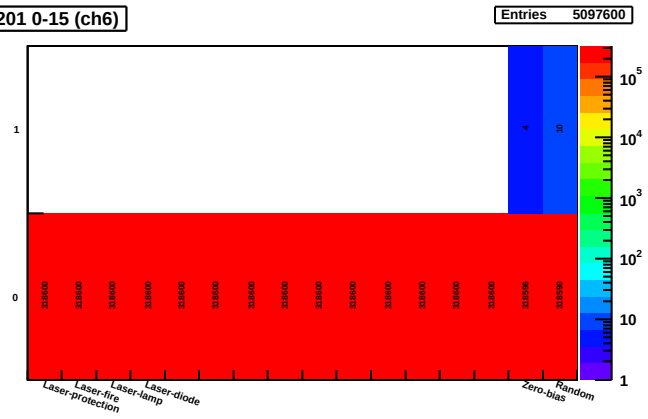
FP201 0-15 (ch5)

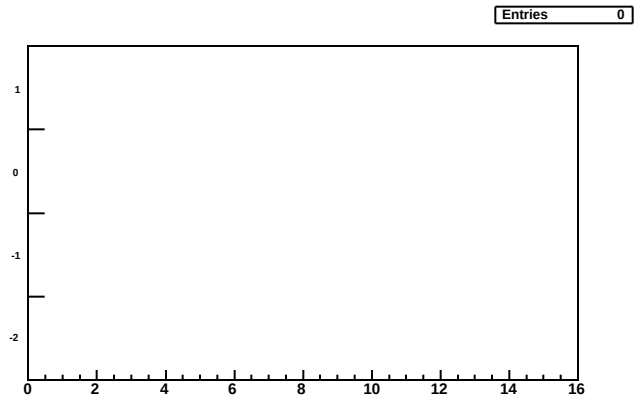
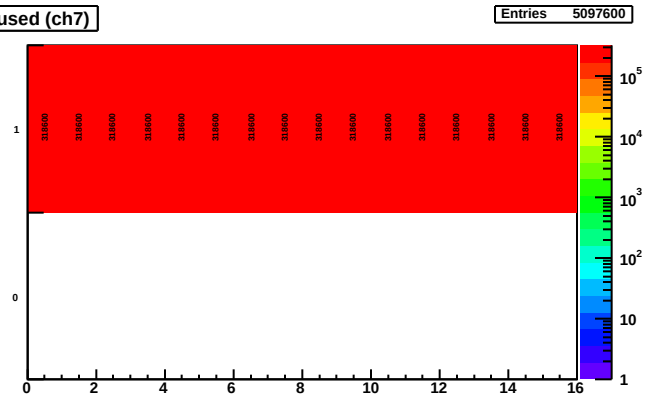
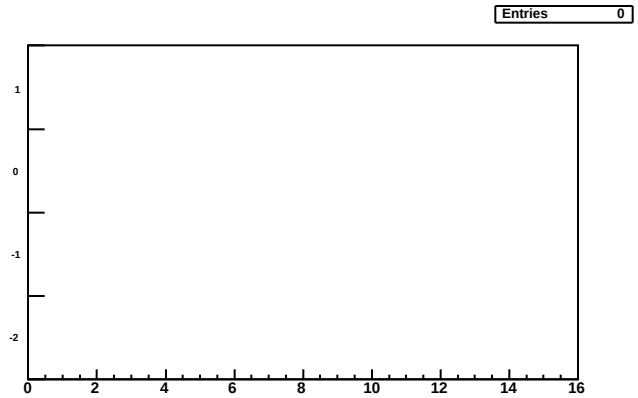


FP201 0-15 (ch5)



ST201 0-15 (ch6)





Unused (ch7)