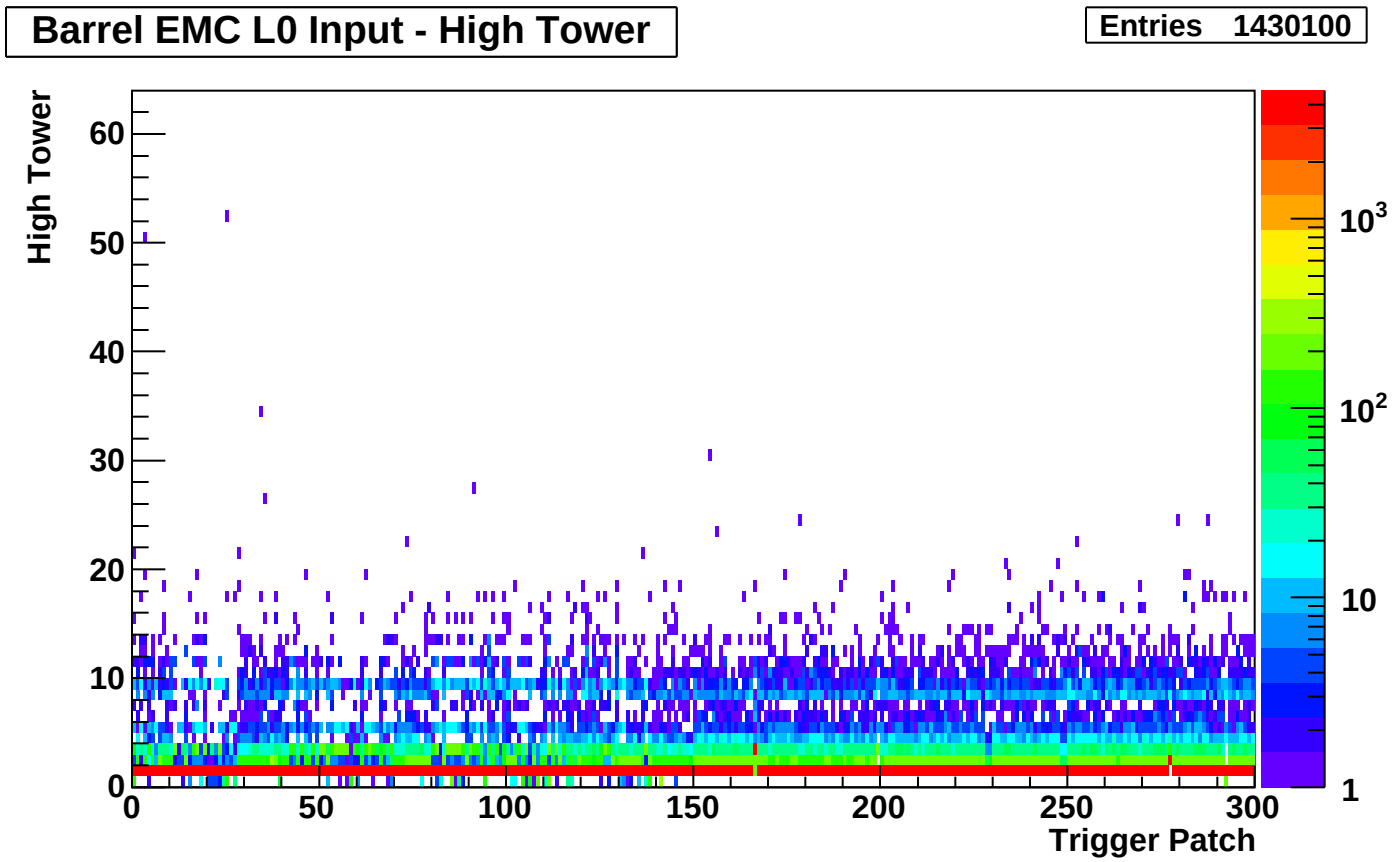
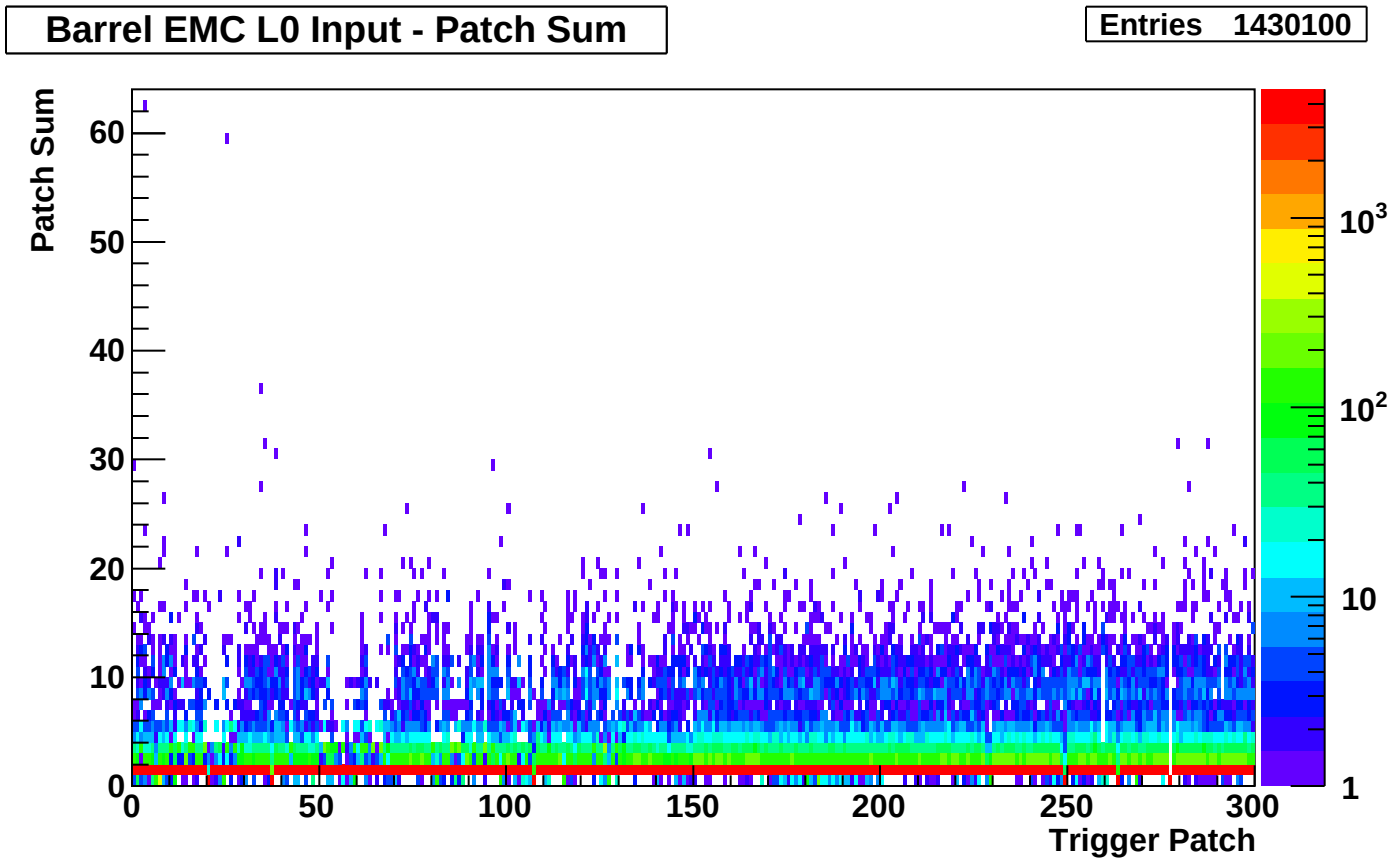
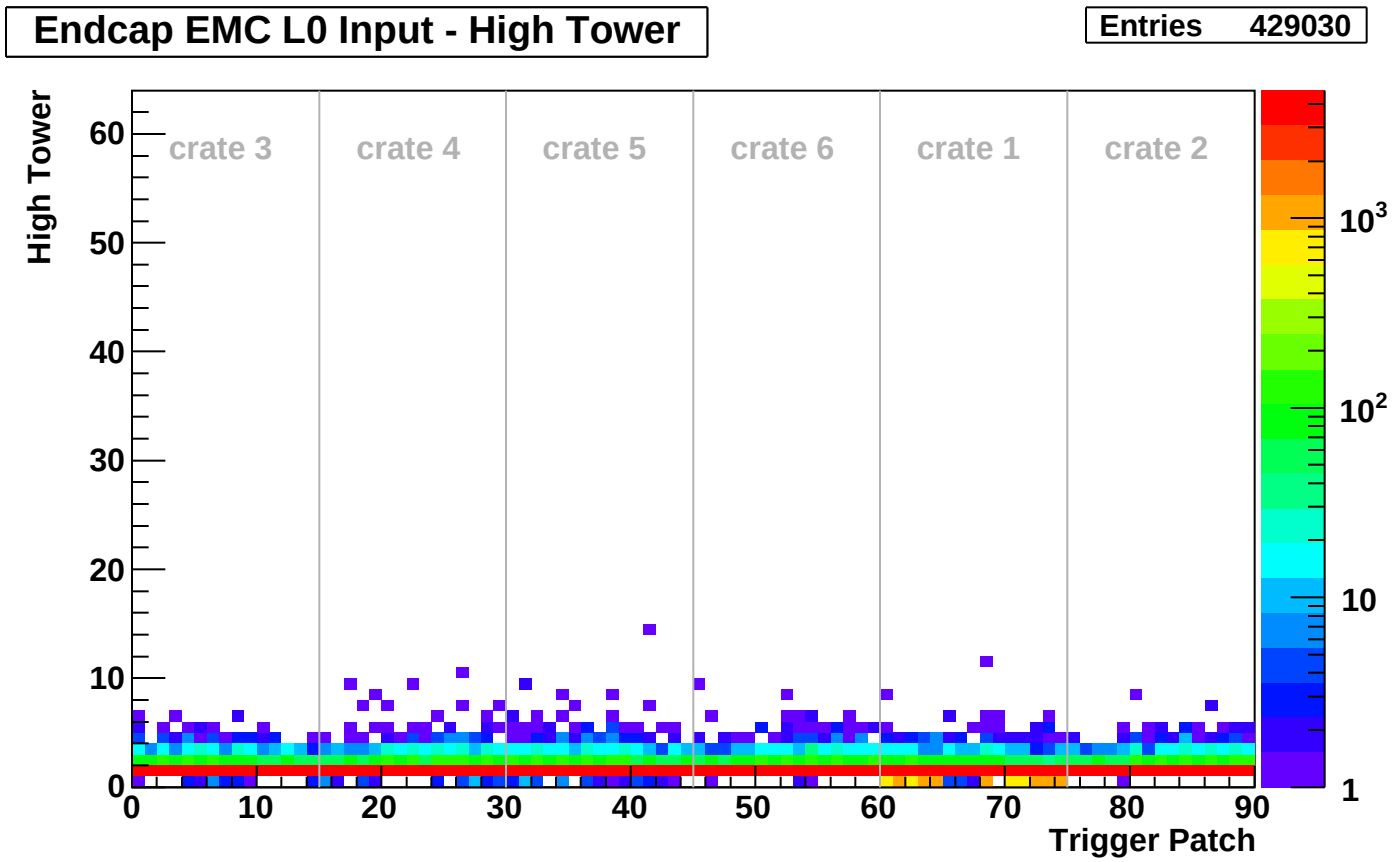
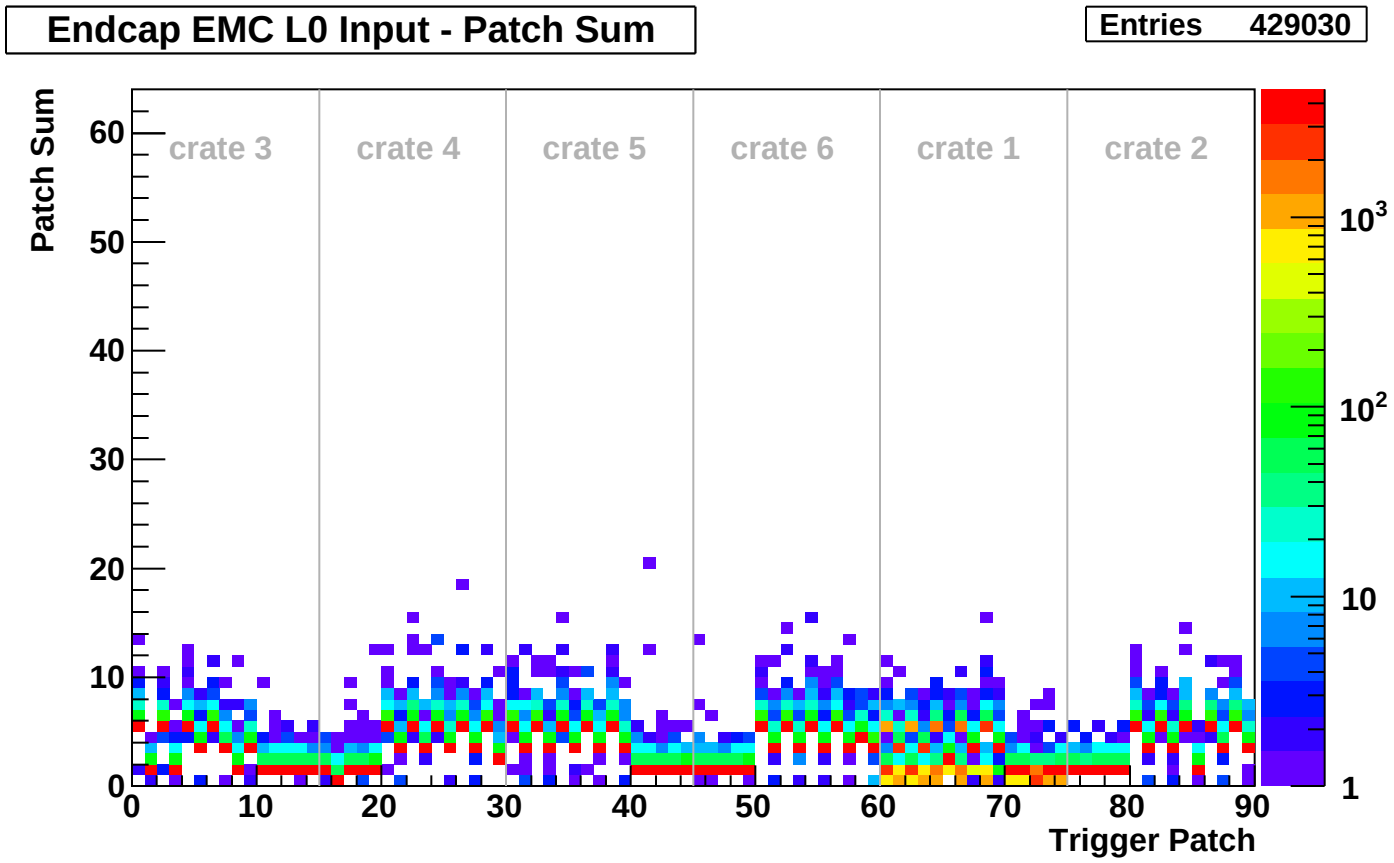
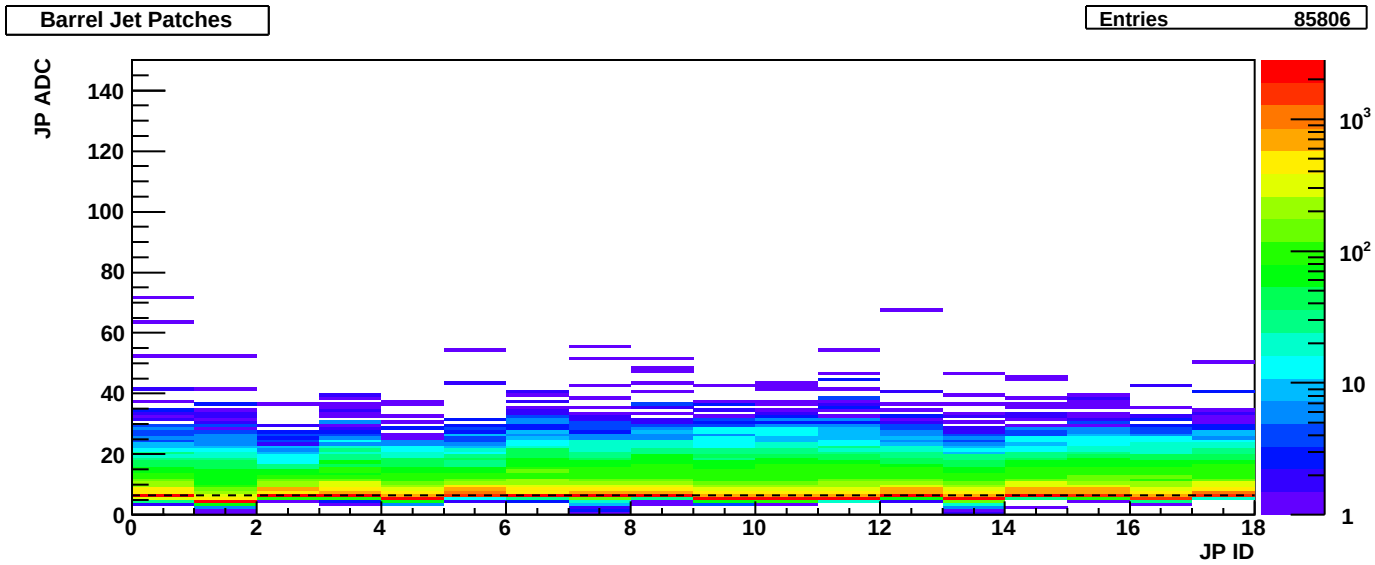
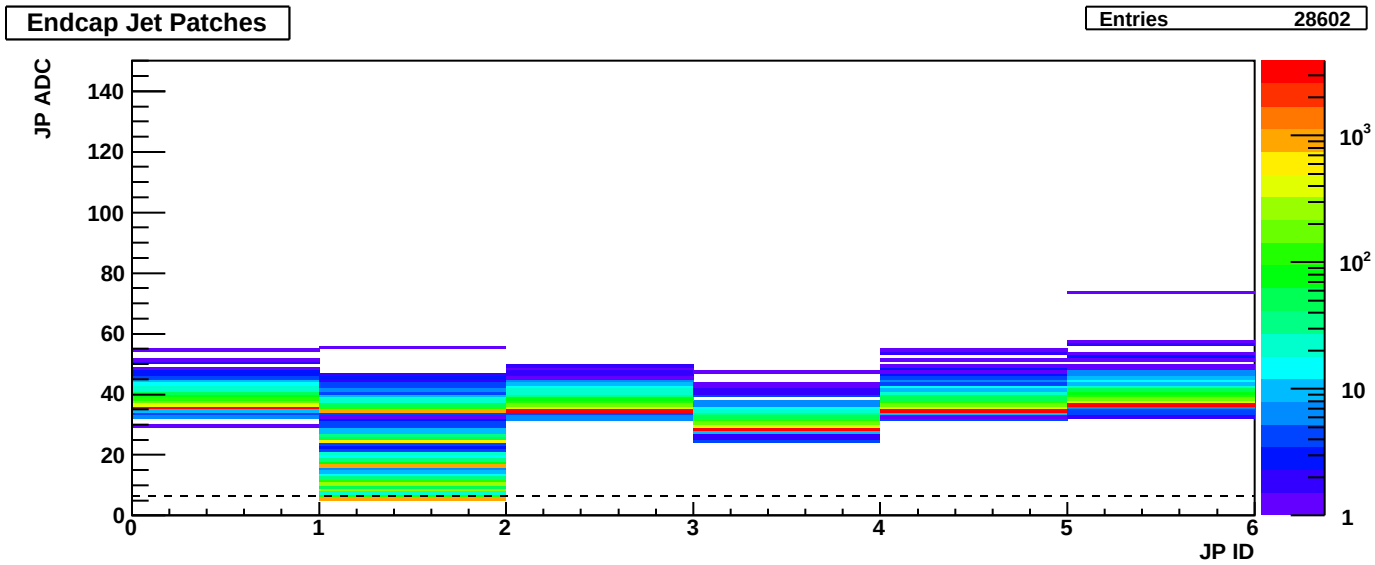

Barrel EMC L0 Input - High Tower
Entries 1430100
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

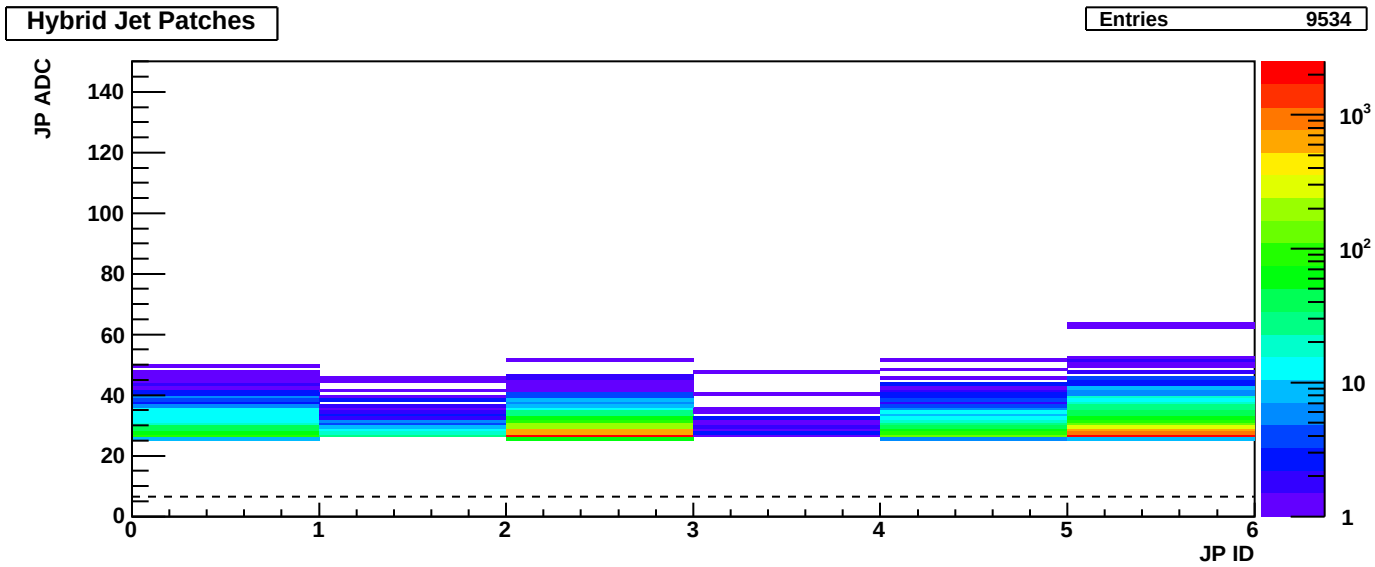

Barrel EMC L0 Input - Patch Sum
Entries 1430100
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

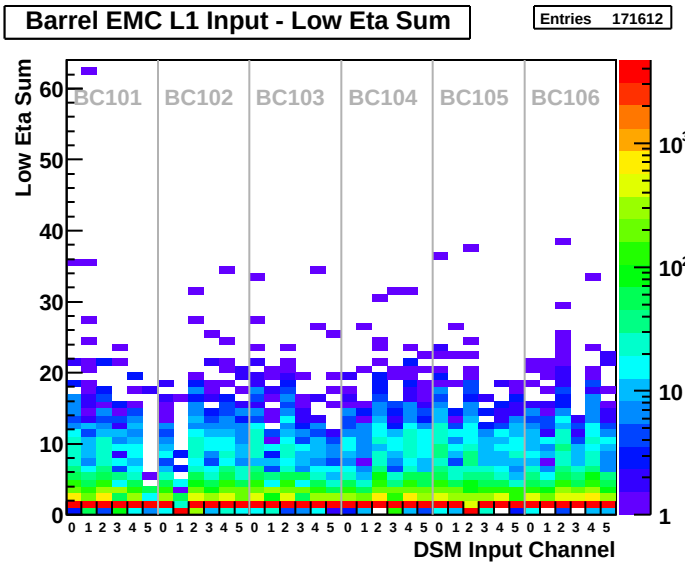

Endcap EMC L0 Input - High Tower
Entries 429030
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

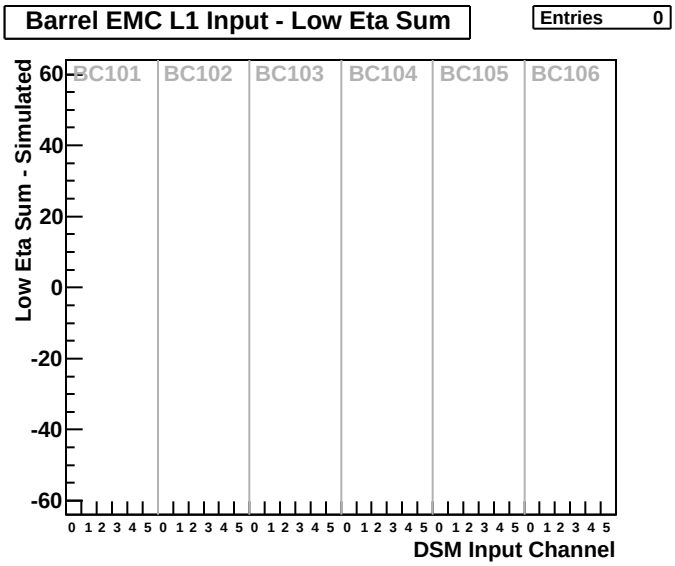

Endcap EMC L0 Input - Patch Sum
Entries 429030
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

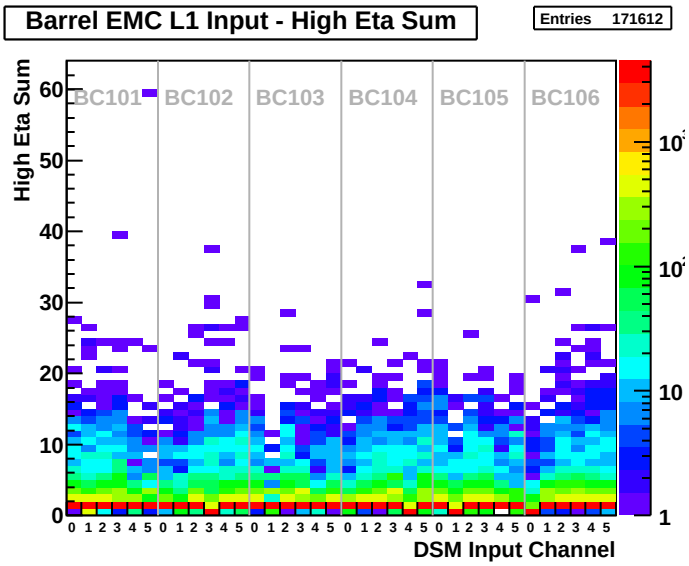

Barrel Jet Patches
Entries 85806
JP ADC
JP ID

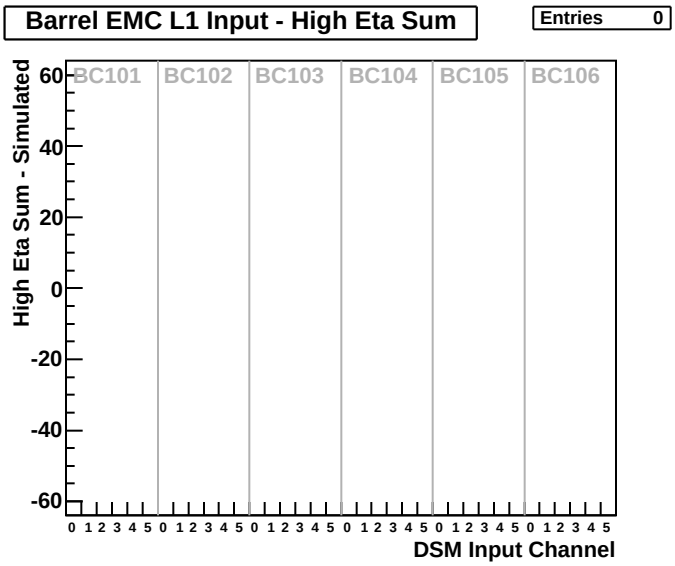

Endcap Jet Patches
Entries 28602
JP ADC
JP ID

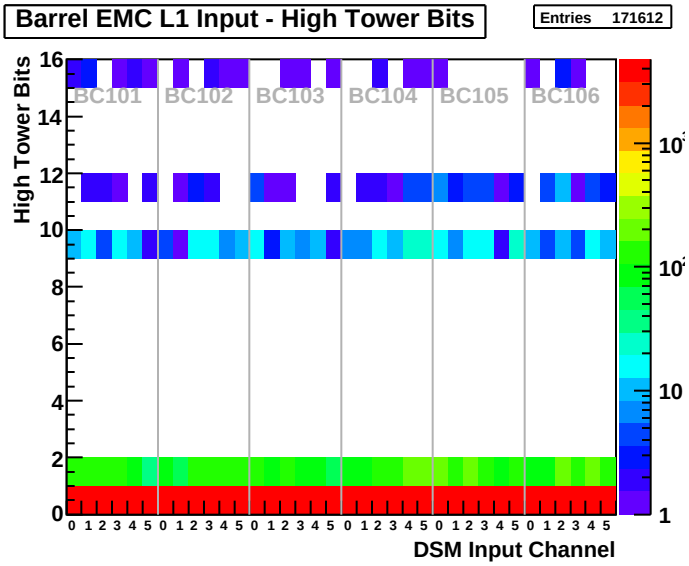

Hybrid Jet Patches
Entries 9534
JP ADC
JP ID

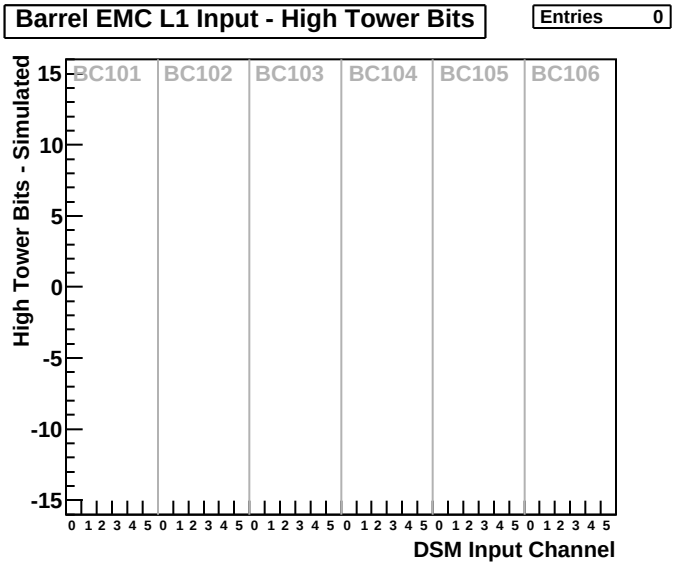

Barrel EMC L1 Input - Low Eta Sum
Entries 171612
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

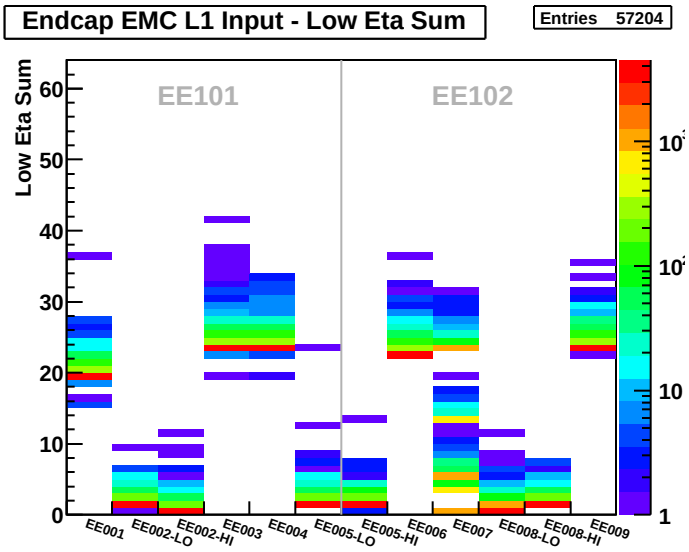

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

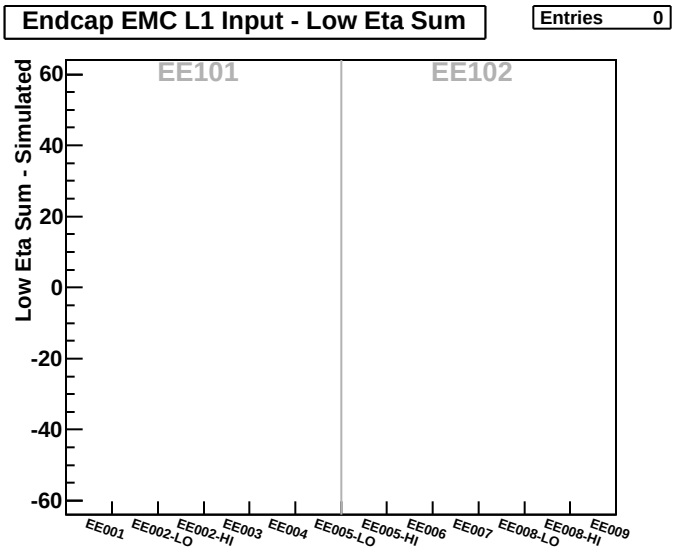

Barrel EMC L1 Input - High Eta Sum
Entries 171612
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

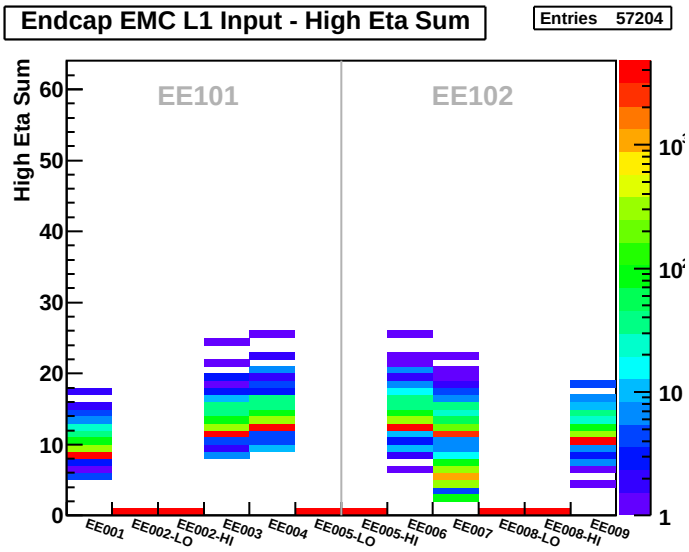

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

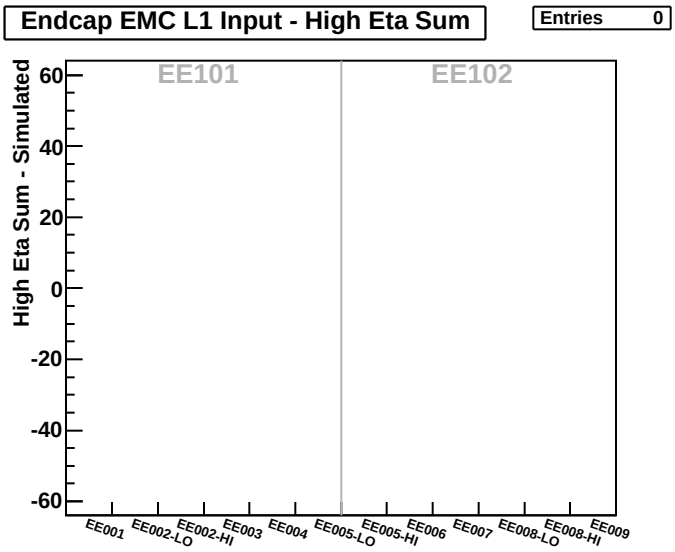

Barrel EMC L1 Input - High Tower Bits
Entries 171612
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

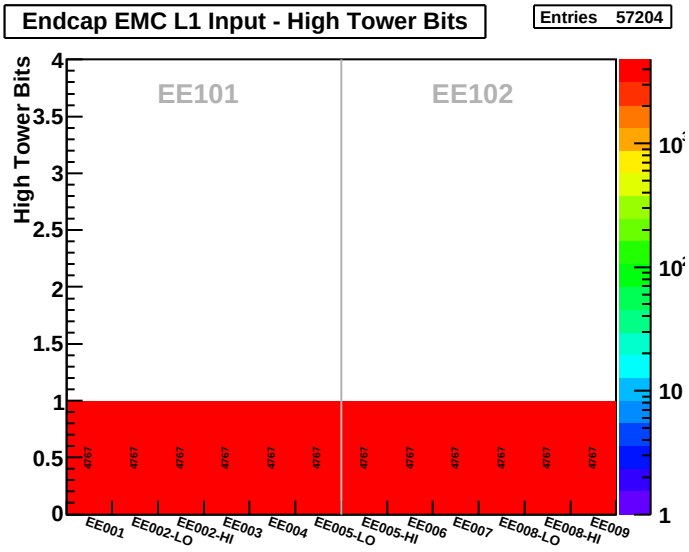

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

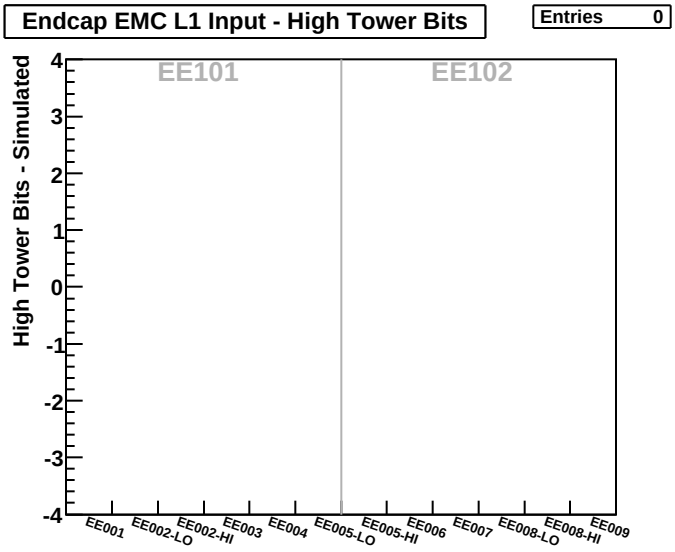

Endcap EMC L1 Input - Low Eta Sum
Entries 57204
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

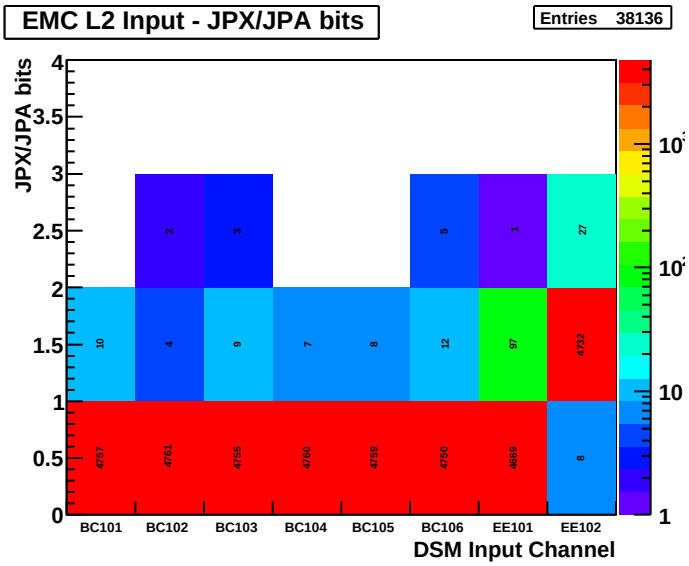

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

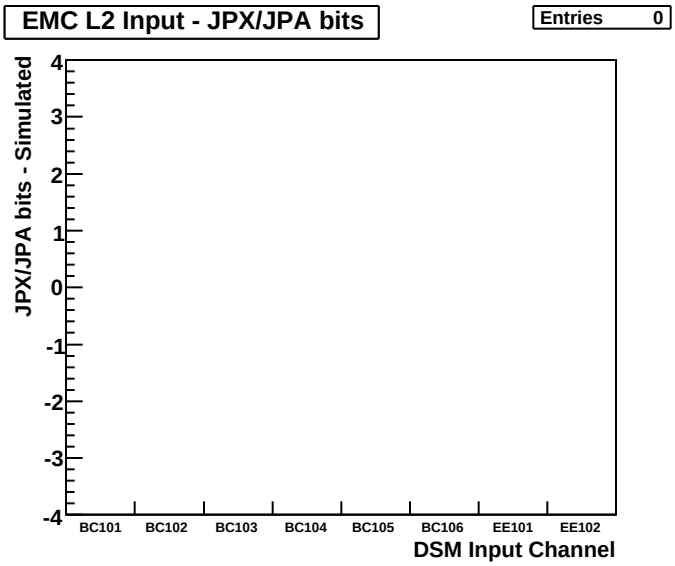

Endcap EMC L1 Input - High Eta Sum
Entries 57204
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

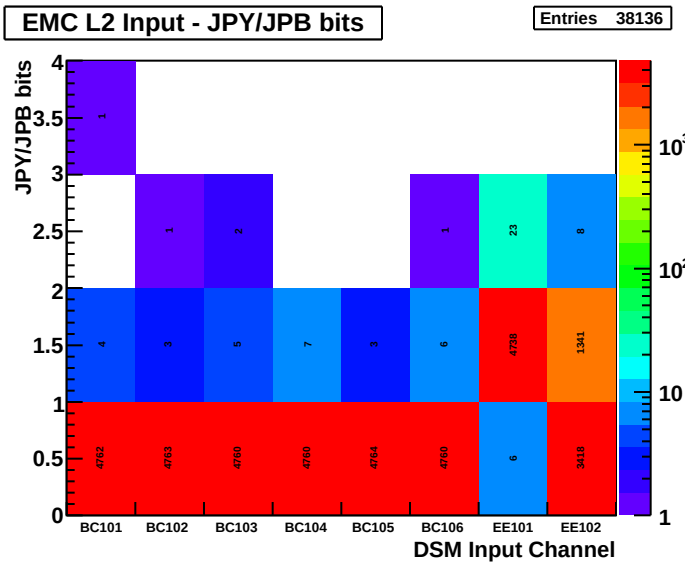

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

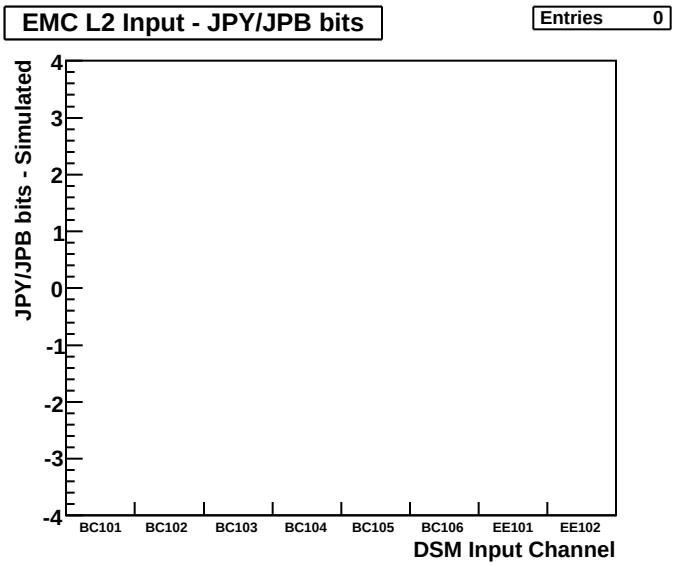

Endcap EMC L1 Input - High Tower Bits
Entries 57204
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

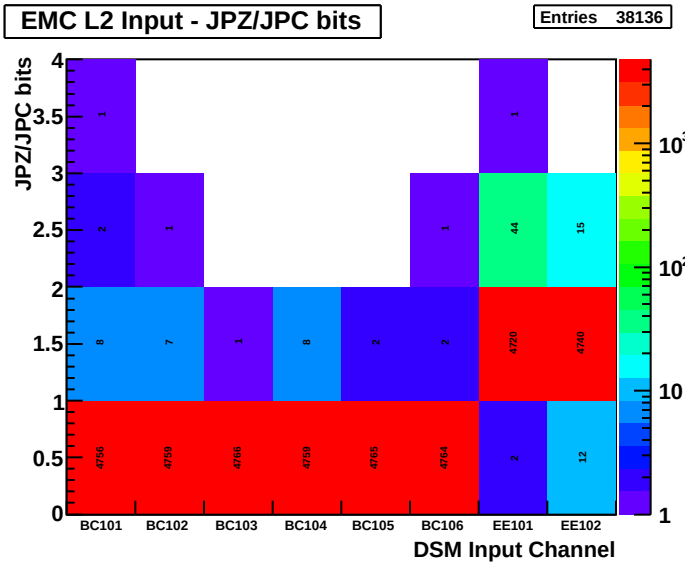

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

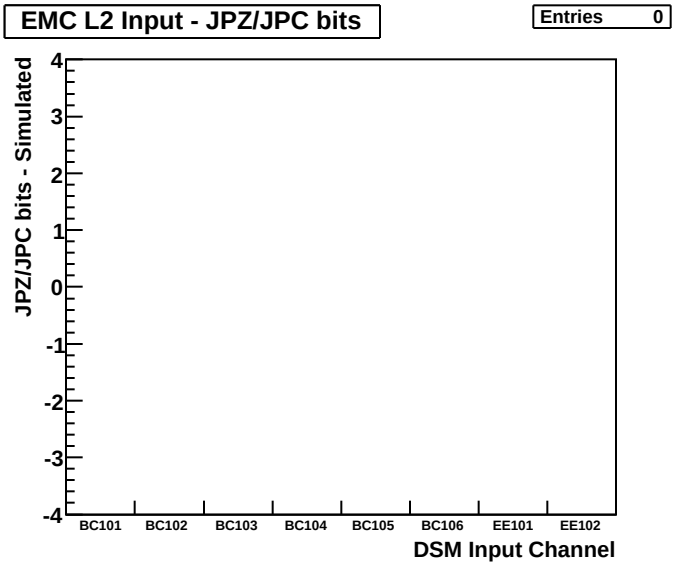

EMC L2 Input - JPX/JPA bits
Entries 38136
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

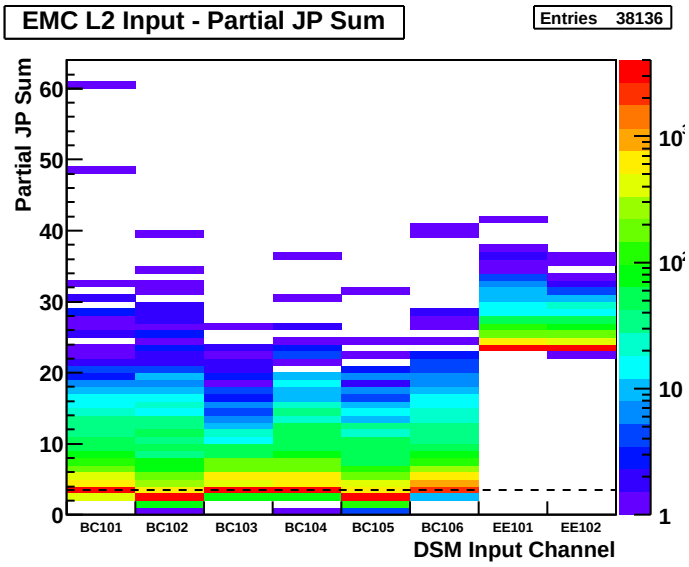

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

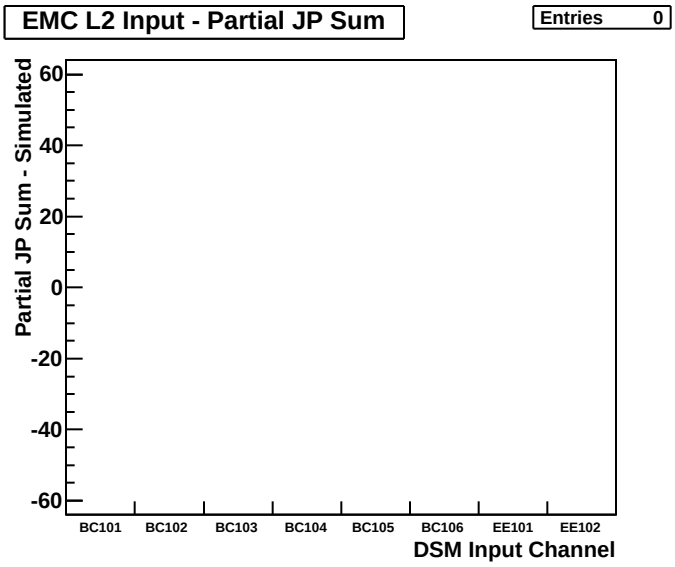

EMC L2 Input - JPY/JPB bits
Entries 38136
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

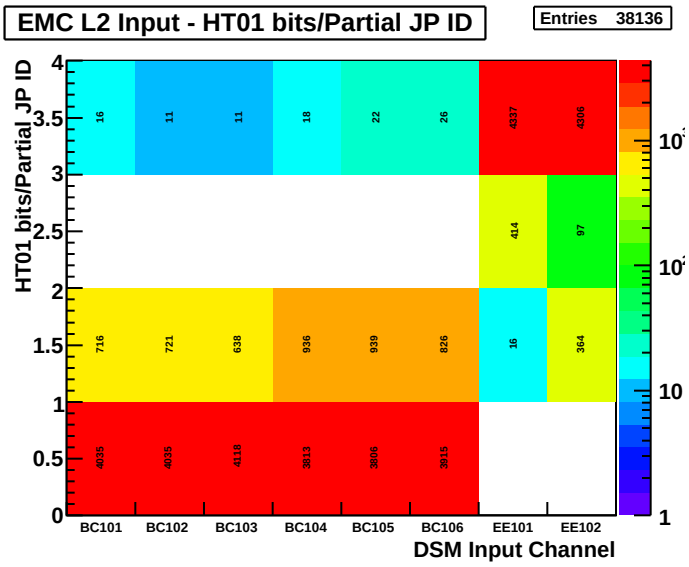

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

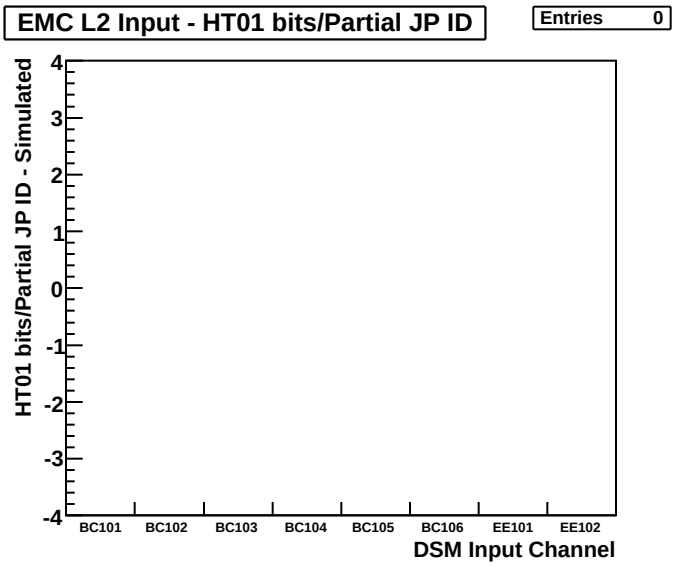

EMC L2 Input - JPZ/JPC bits
Entries 38136
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

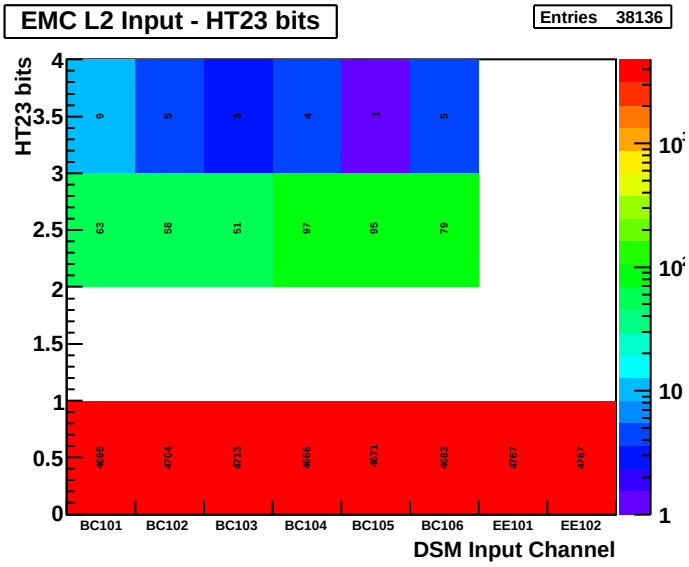

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

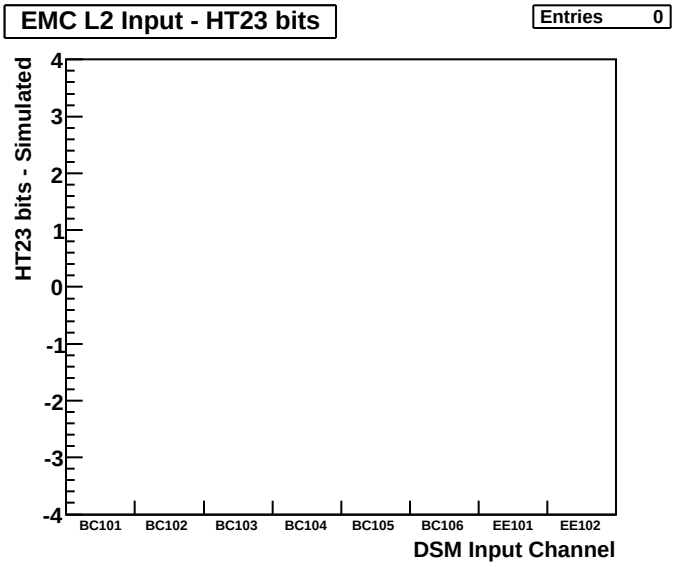

EMC L2 Input - Partial JP Sum
Entries 38136
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

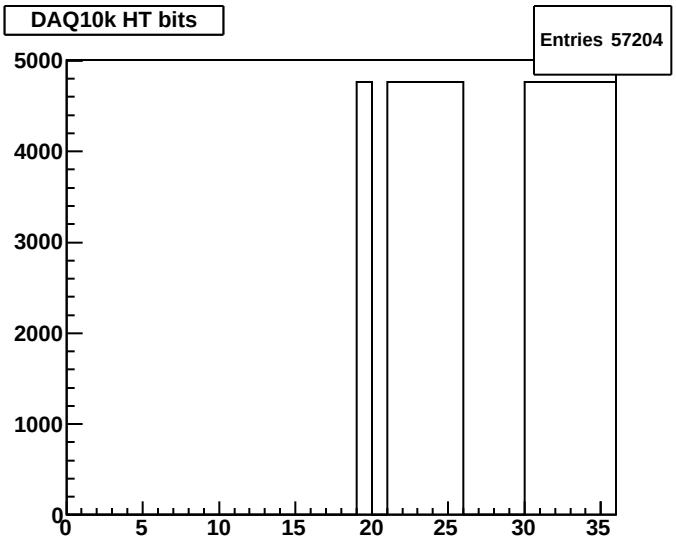

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

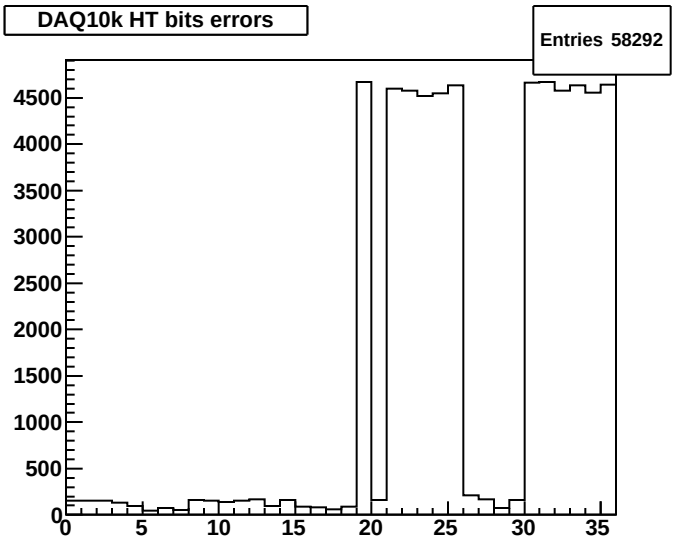

EMC L2 Input - HT01 bits/Partial JP ID
Entries 38136
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

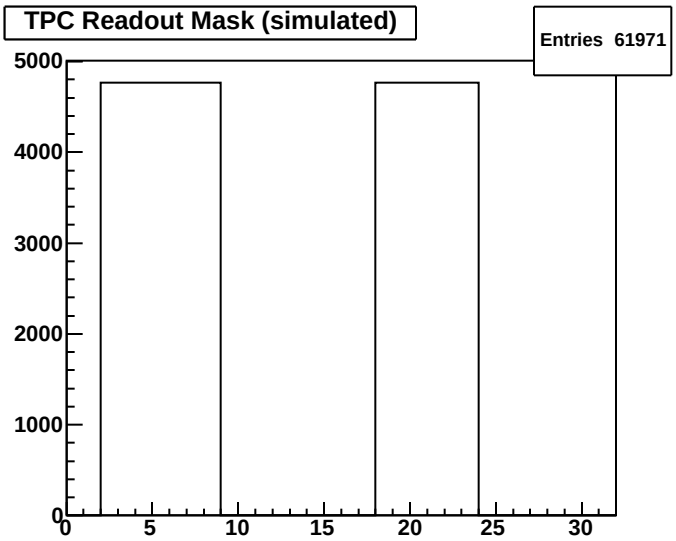

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

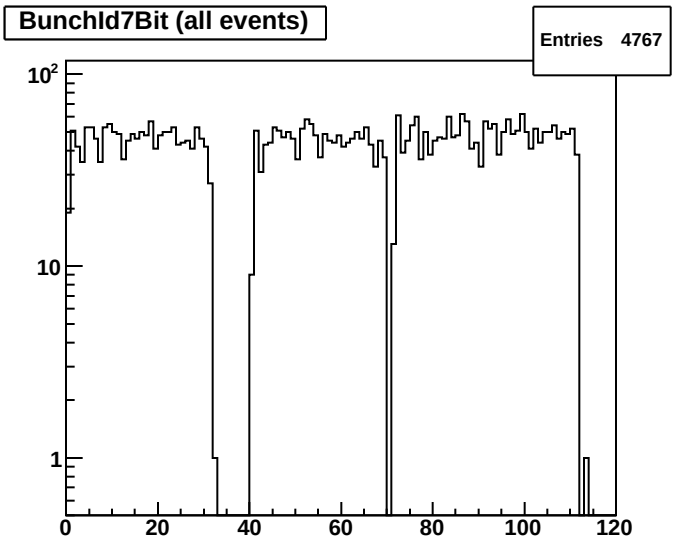

EMC L2 Input - HT23 bits
Entries 38136
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

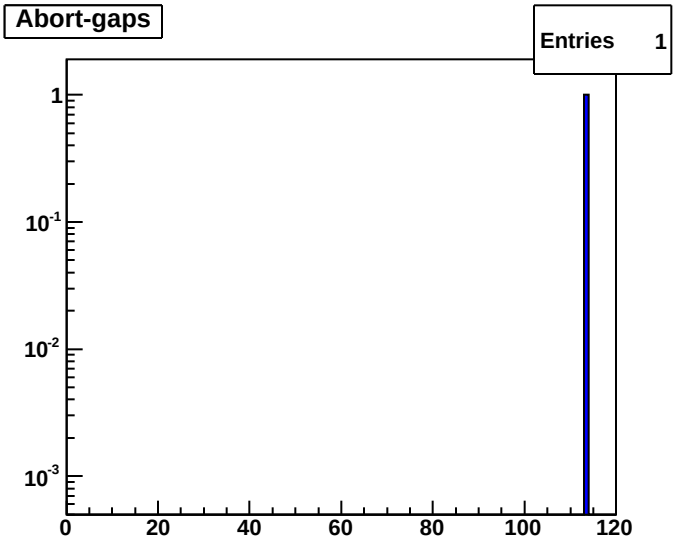

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

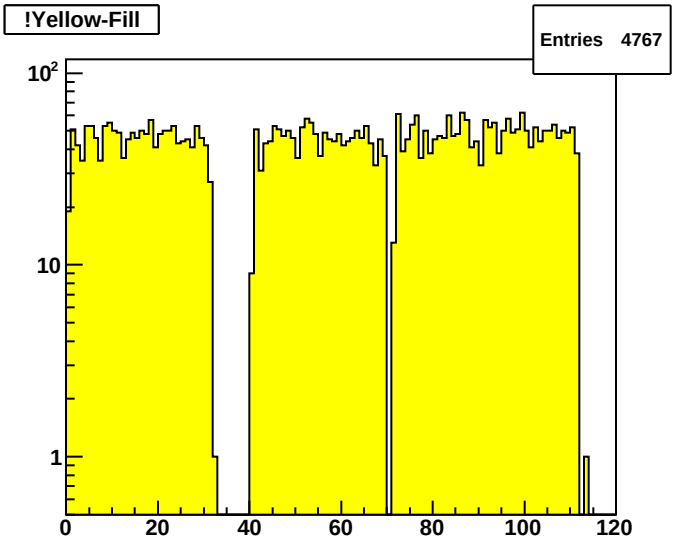

DAQ10k HT bits
Entries 57204
5000
4000
3000
2000
1000
0
0 5 10 15 20 25 30 35

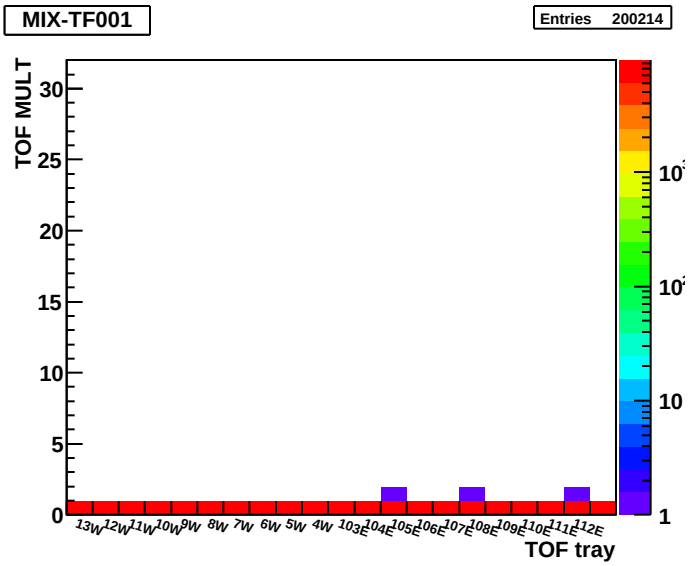

DAQ10k HT bits errors
Entries 58292
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0 5 10 15 20 25 30 35

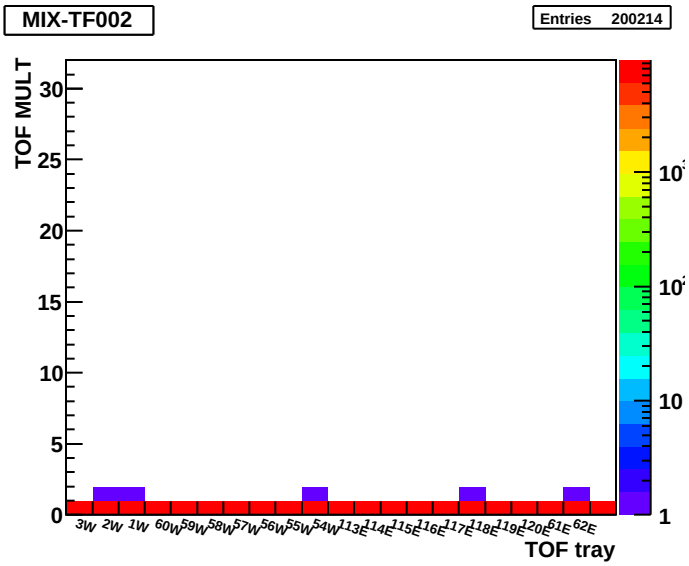

TPC Readout Mask (simulated)
Entries 61971
5000
4000
3000
2000
1000
0
0 5 10 15 20 25 30

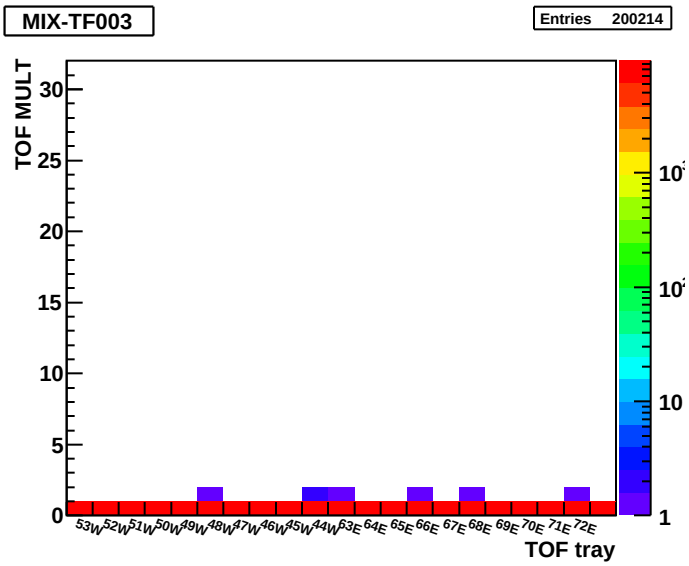

BunchId7Bit (all events)
Entries 4767
10^2
10
1
0 20 40 60 80 100 120

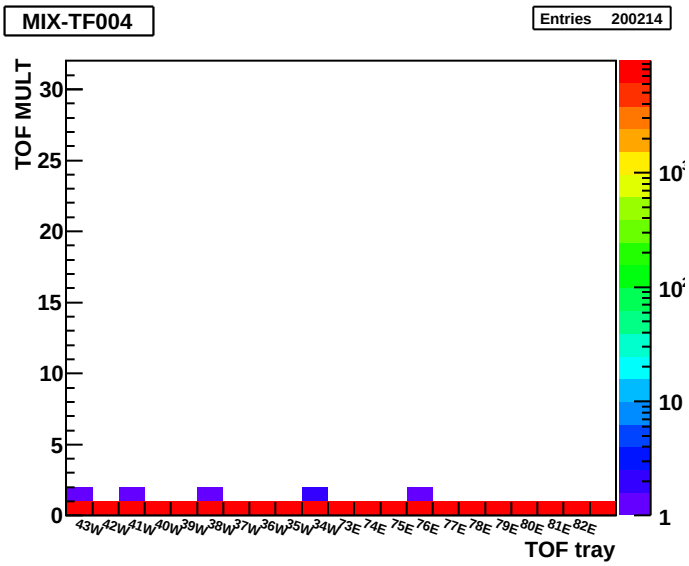

Abort-gaps
Entries 1
1
10^{-1}
10^{-2}
10^{-3}
0 20 40 60 80 100 120

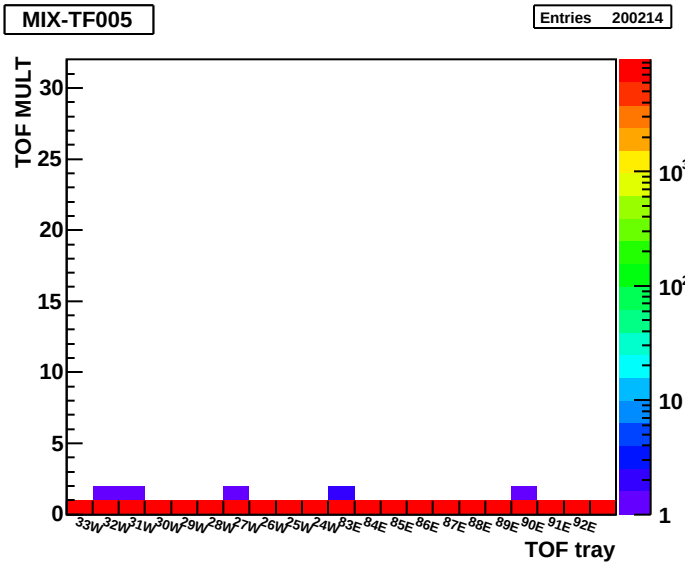

!Yellow-Fill
Entries 4767
10^2
10
1
0 20 40 60 80 100 120

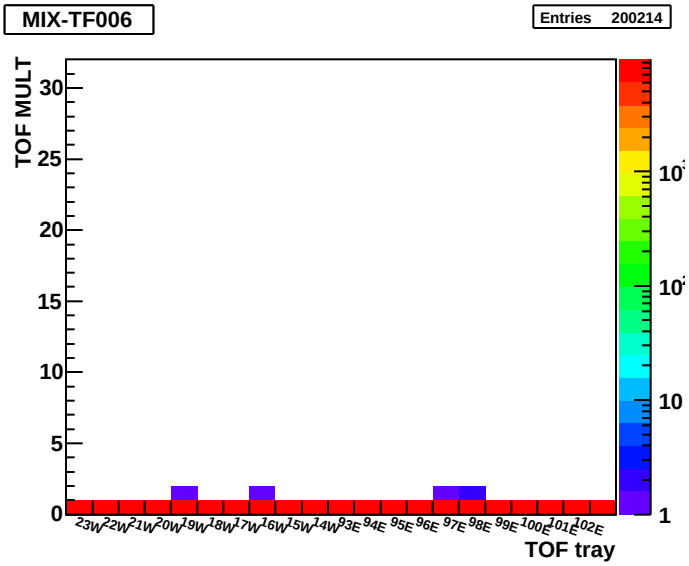

MIX-TF001
Entries 200214
TOF MULT
TOF tray

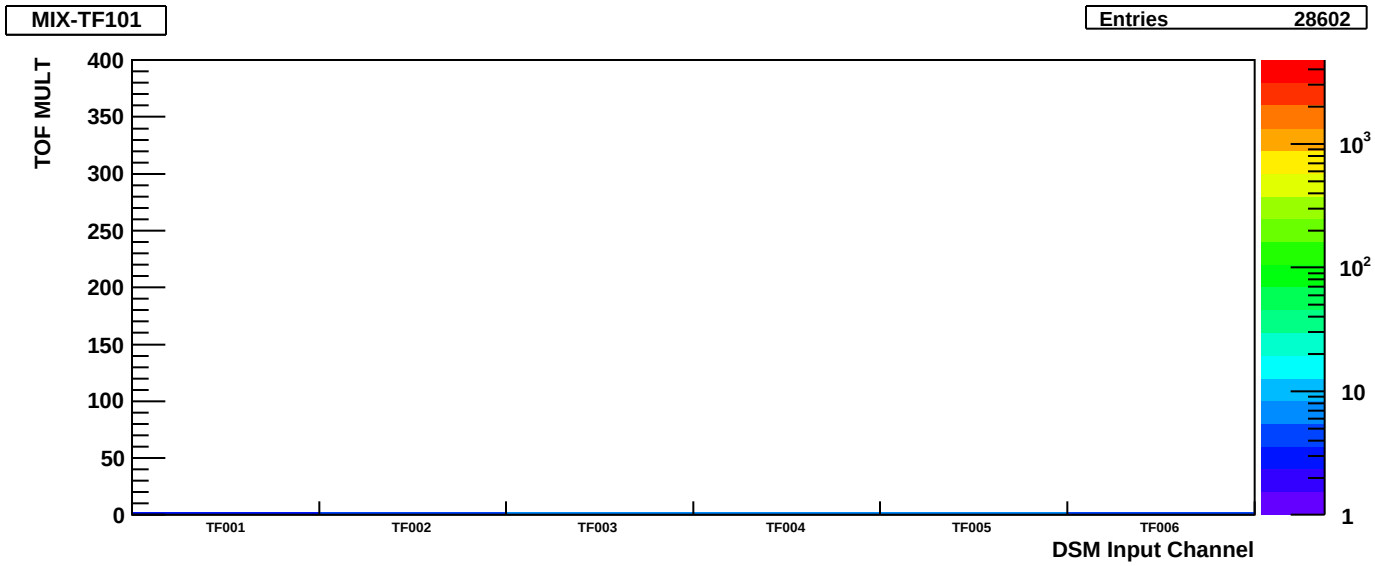

MIX-TF002
Entries 200214
TOF MULT
TOF tray

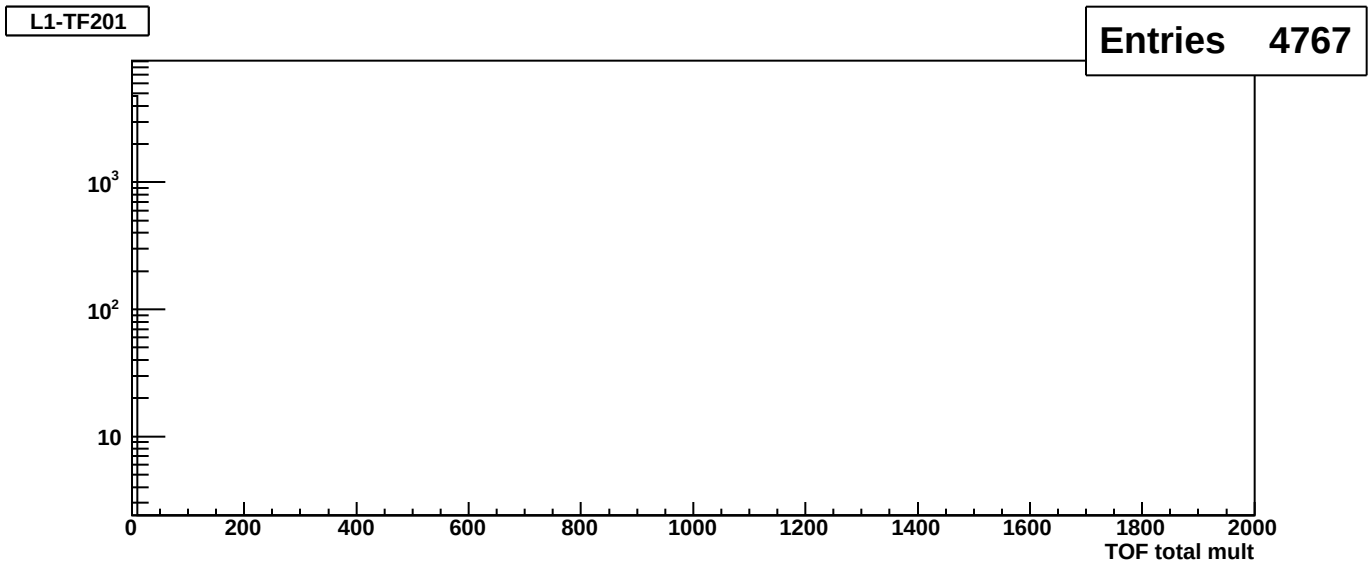

MIX-TF003
Entries 200214
TOF MULT
TOF tray

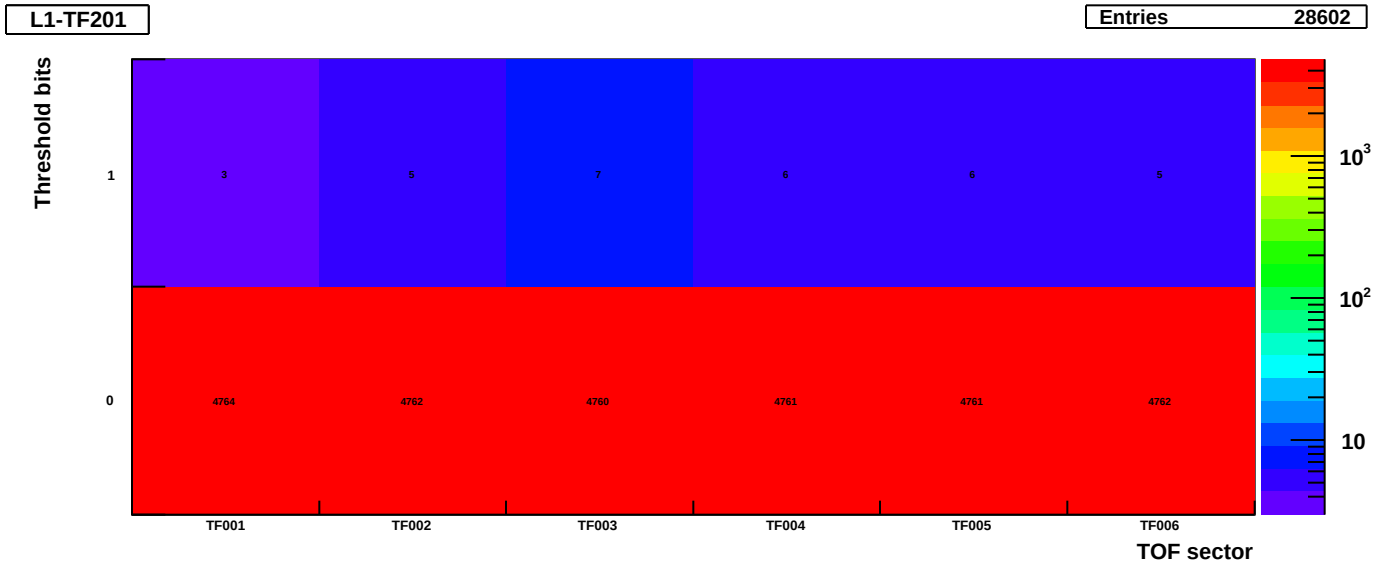

MIX-TF004
Entries 200214
TOF MULT
TOF tray

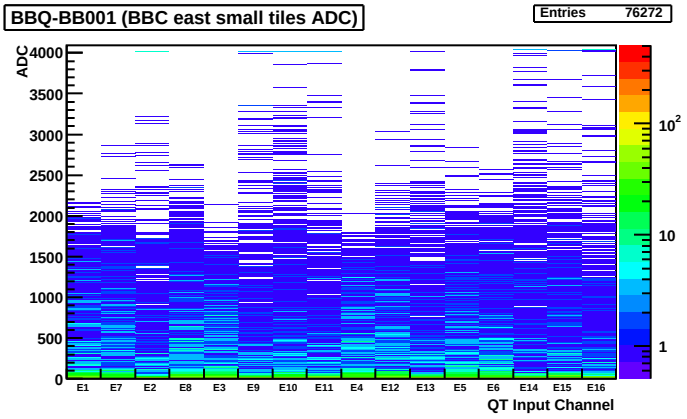

MIX-TF005
Entries 200214
TOF MULT
TOF tray

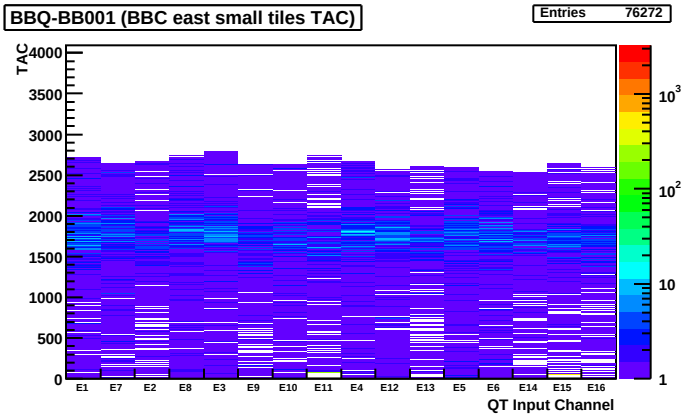

MIX-TF006
Entries 200214
TOF MULT
TOF tray

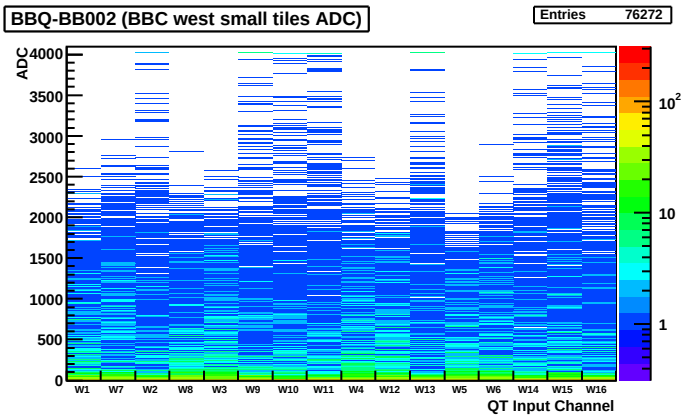

MIX-TF101
Entries 28602
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^3
10^2
10
1

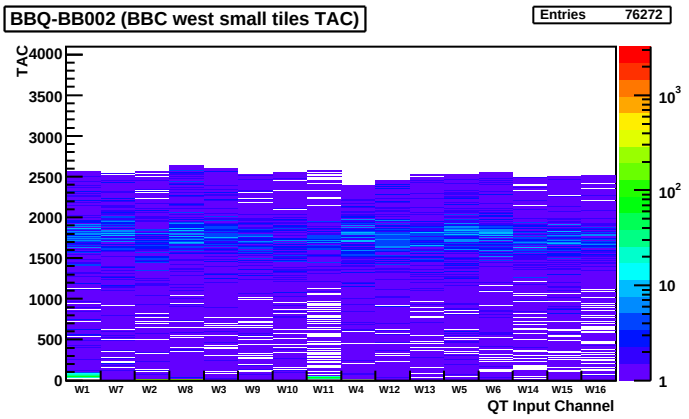

L1-TF201
Entries 4767
10^3
10^2
10
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

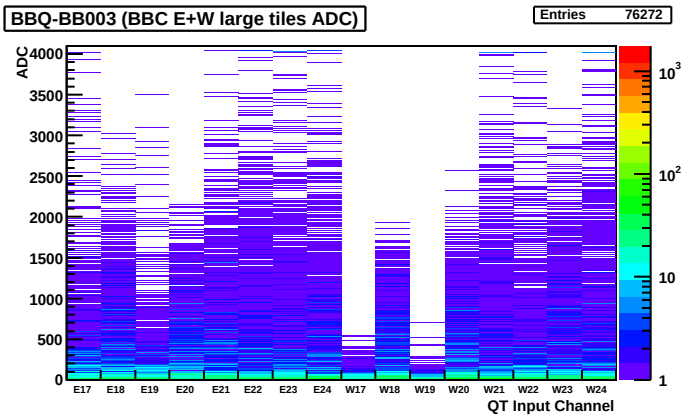

L1-TF201
Entries 28602
Threshold bits
1
0
3
5
7
6
6
5
4764
4762
4760
4761
4761
4762
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^3
10^2
10

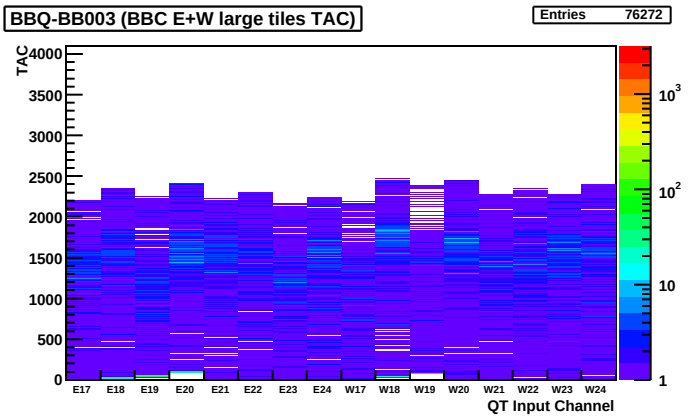

BBQ-BB001 (BBC east small tiles ADC)
Entries 76272
ADC
QT Input Channel

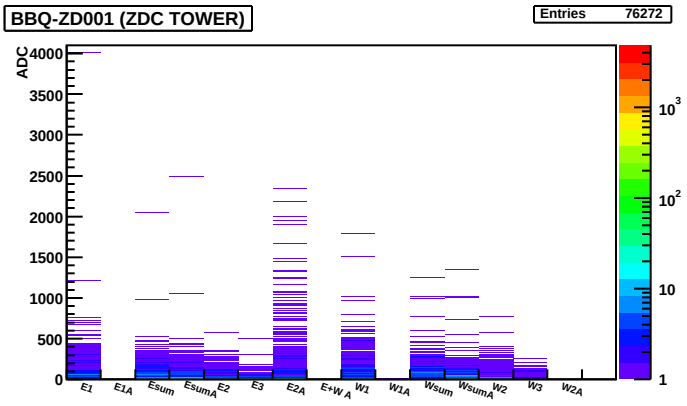

BBQ-BB001 (BBC east small tiles TAC)
Entries 76272
TAC
QT Input Channel

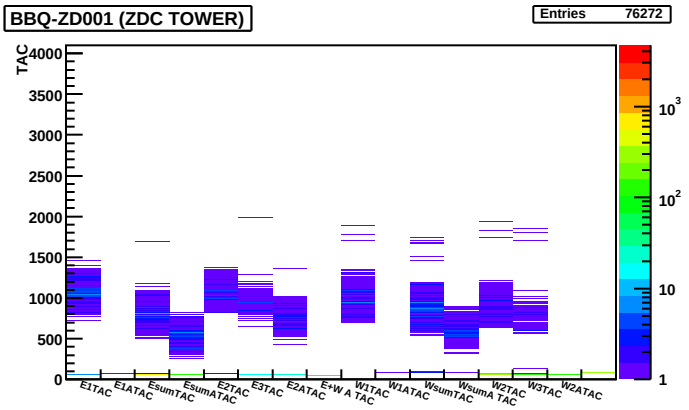

BBQ-BB002 (BBC west small tiles ADC)
Entries 76272
ADC
QT Input Channel

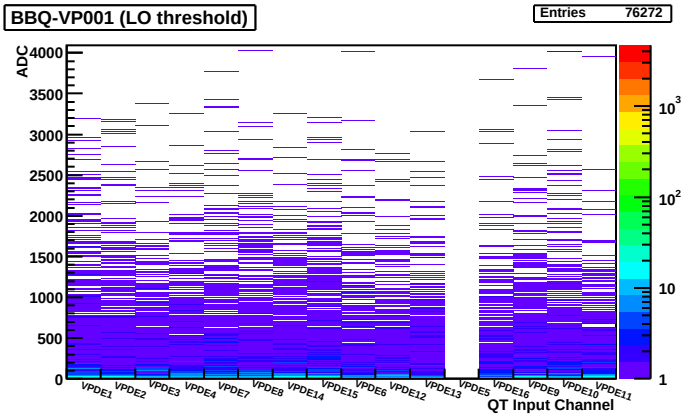

BBQ-BB002 (BBC west small tiles TAC)
Entries 76272
TAC
QT Input Channel

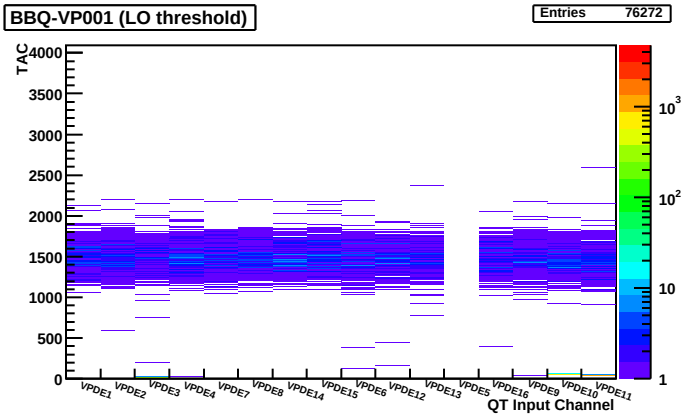

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 76272
ADC
QT Input Channel

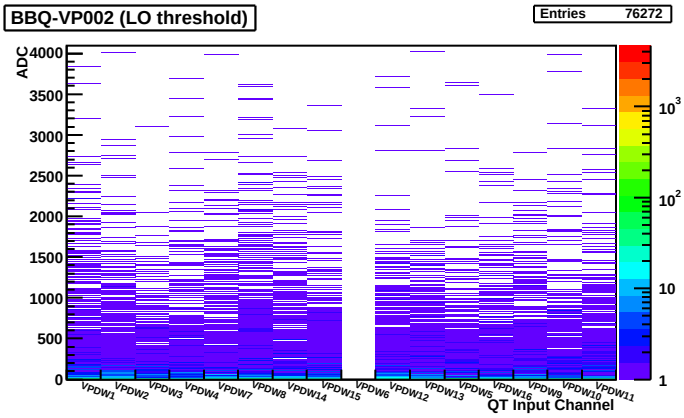

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 76272
TAC
QT Input Channel

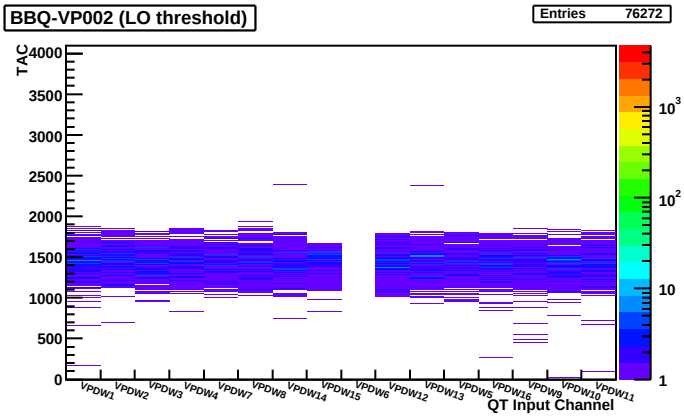

BBQ-ZD001 (ZDC TOWER)
Entries 76272
ADC

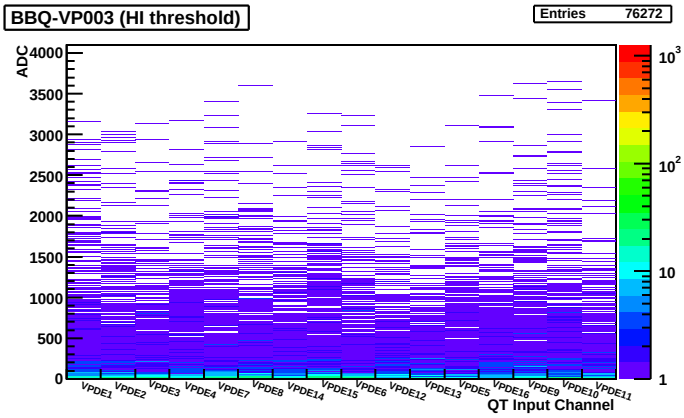

BBQ-ZD001 (ZDC TOWER)
Entries 76272
TAC

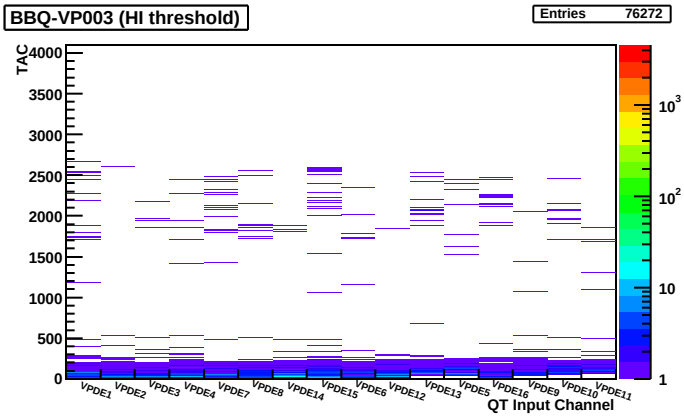

BBQ-VP001 (LO threshold)
Entries 76272
ADC
QT Input Channel

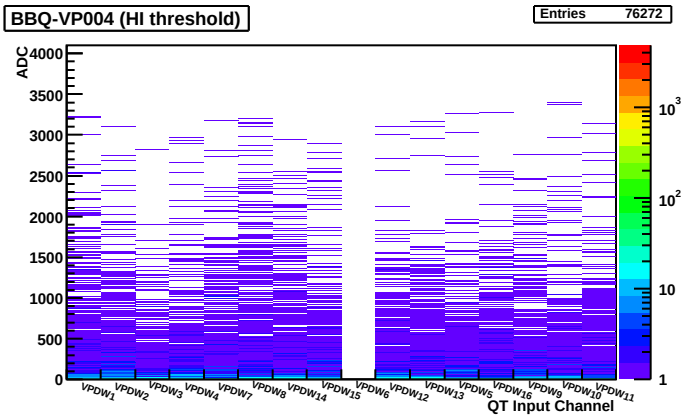

BBQ-VP001 (LO threshold)
Entries 76272
TAC
QT Input Channel

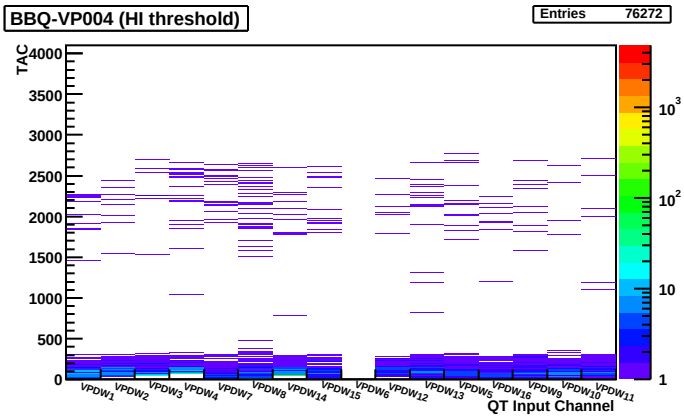

BBQ-VP002 (LO threshold)
Entries 76272
ADC
QT Input Channel

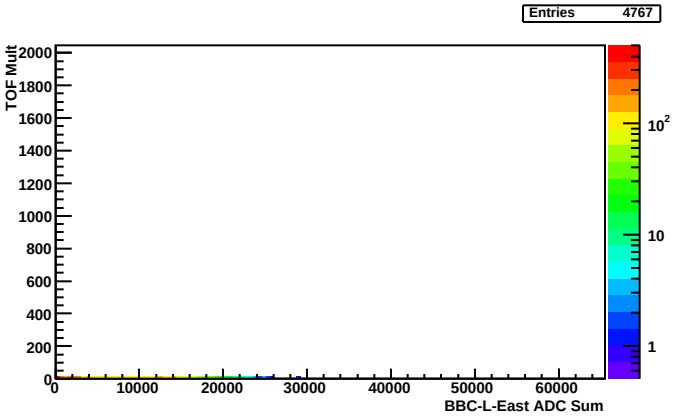

BBQ-VP002 (LO threshold)
Entries 76272
TAC
QT Input Channel

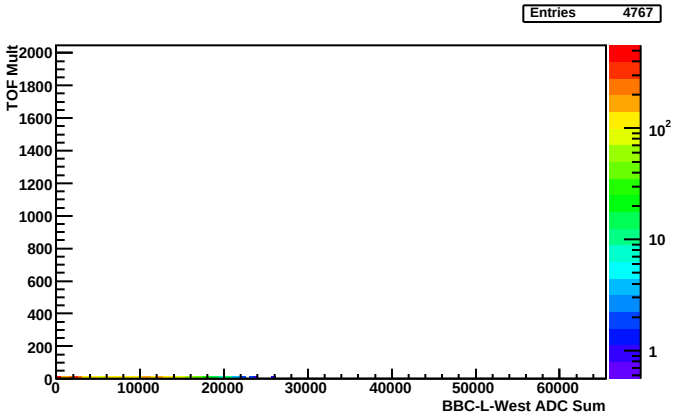

BBQ-VP003 (HI threshold)
Entries 76272
ADC
QT Input Channel

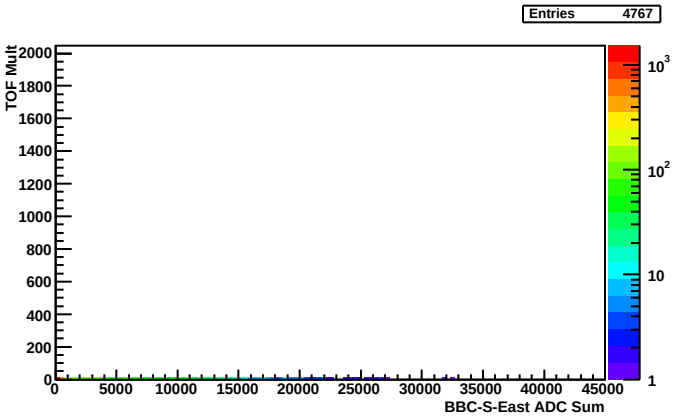

BBQ-VP003 (HI threshold)
Entries 76272
TAC
QT Input Channel

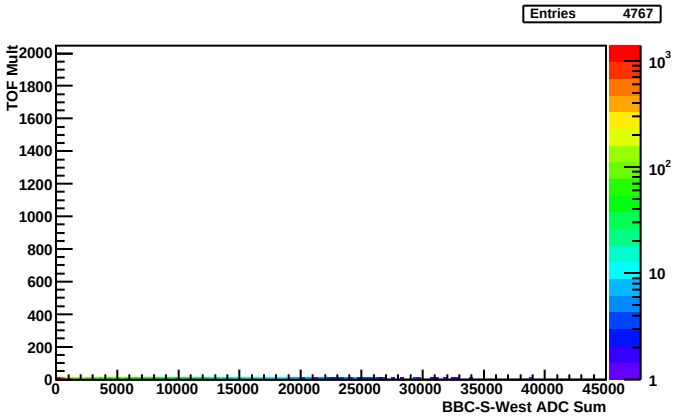

BBQ-VP004 (HI threshold)
Entries 76272
ADC
QT Input Channel

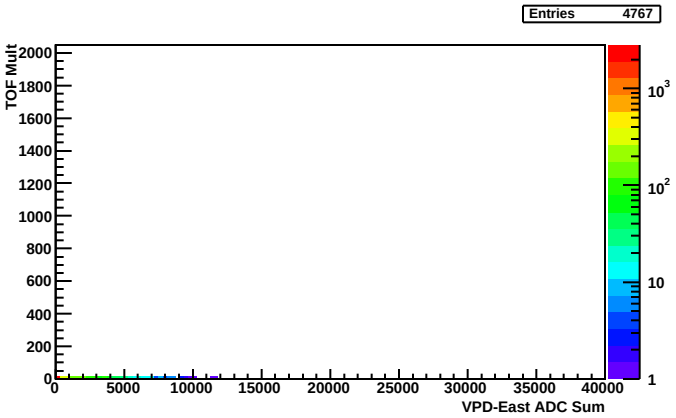

BBQ-VP004 (HI threshold)
Entries 76272
TAC
QT Input Channel

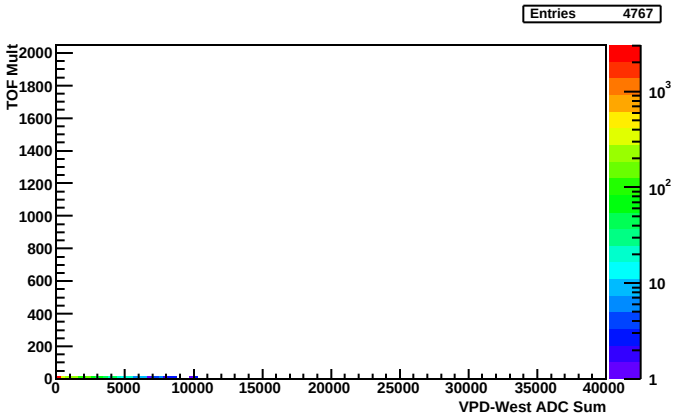

Entries 4767
TOF Mult
BBC-L-East ADC Sum

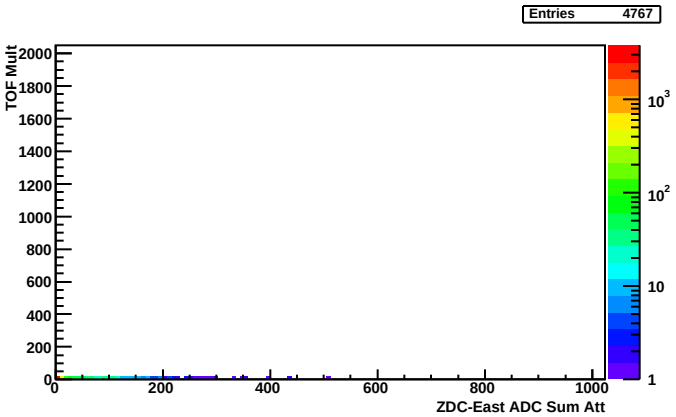

Entries 4767
TOF Mult
BBC-L-West ADC Sum

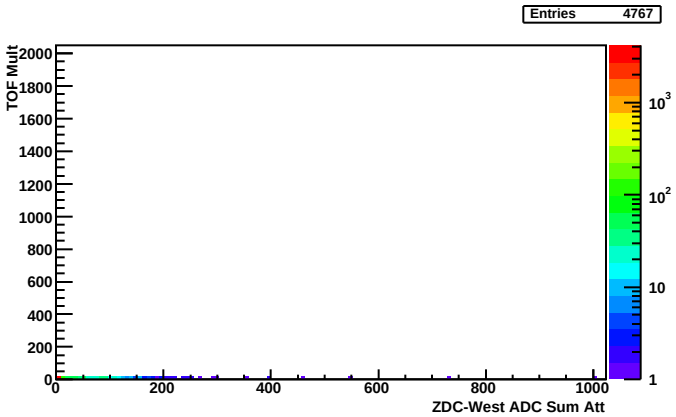

Entries 4767
TOF Mult
BBC-S-East ADC Sum

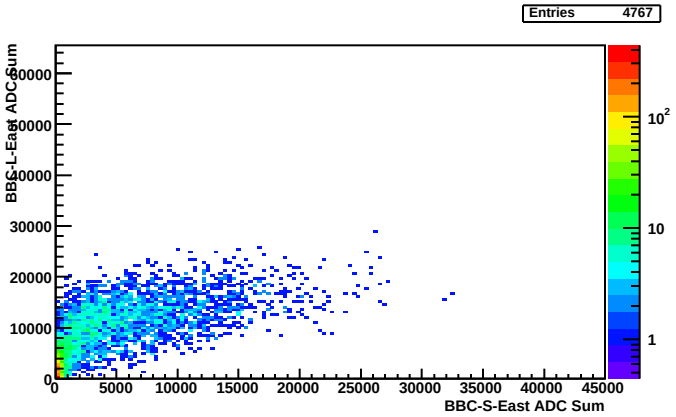

Entries 4767
TOF Mult
BBC-S-West ADC Sum

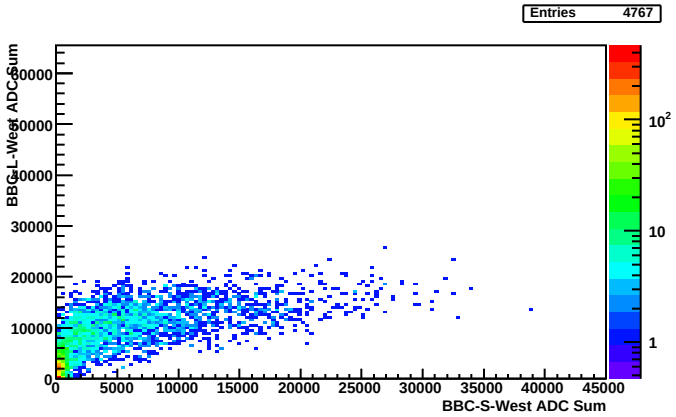

Entries 4767
TOF Mult
VPD-East ADC Sum

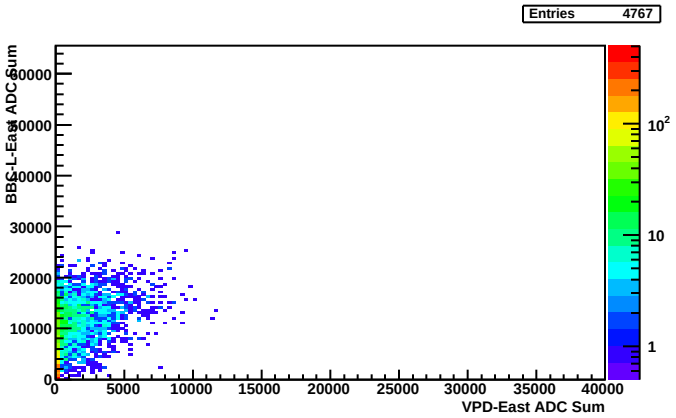

Entries 4767
TOF Mult
VPD-West ADC Sum

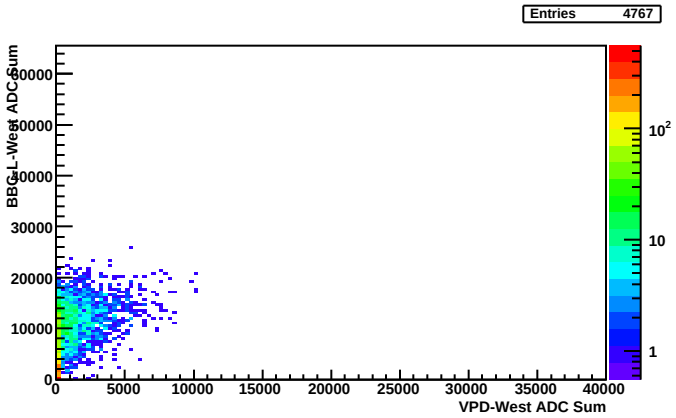

Entries 4767
TOF Mult
ZDC-East ADC Sum Att

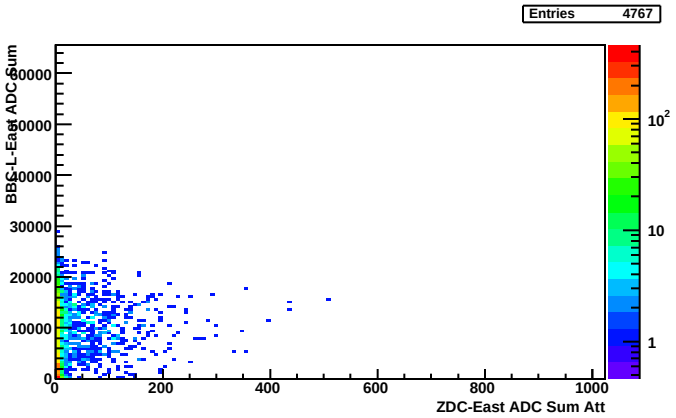

Entries 4767
TOF Mult
ZDC-West ADC Sum Att

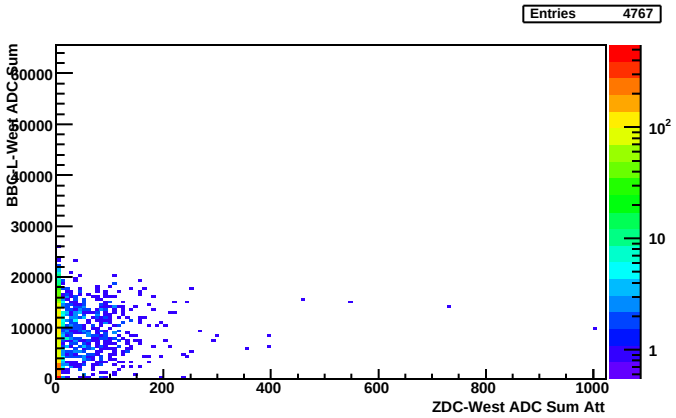

Entries 4767
BBC-L-East ADC Sum
BBC-S-East ADC Sum

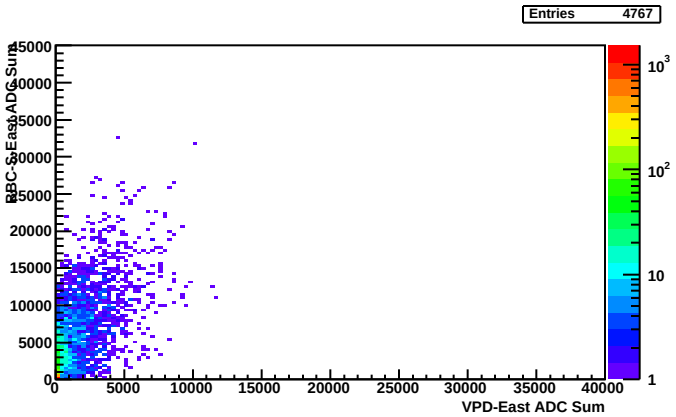

Entries 4767
BBC-L-West ADC Sum
BBC-S-West ADC Sum

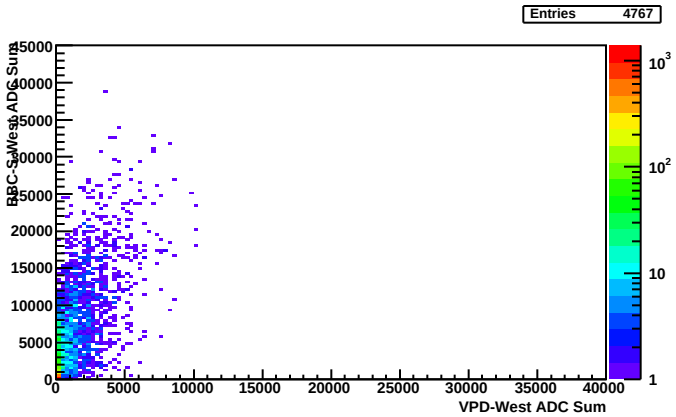

Entries 4767
BBC-L-East ADC Sum
VPD-East ADC Sum

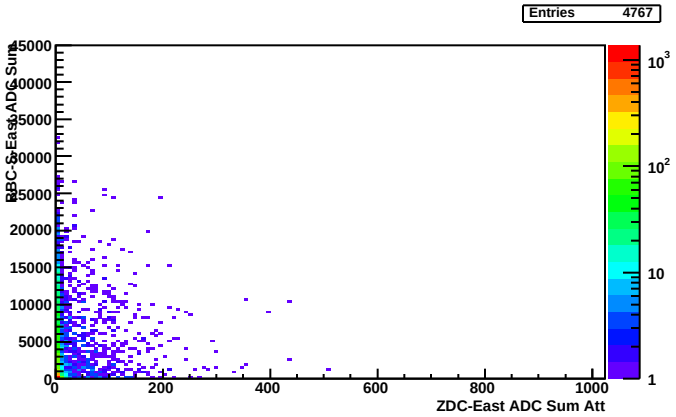

Entries 4767
BBC-L-West ADC Sum
VPD-West ADC Sum

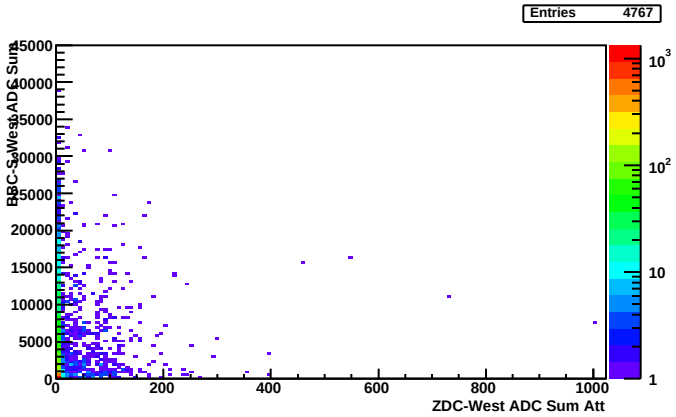

Entries 4767
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

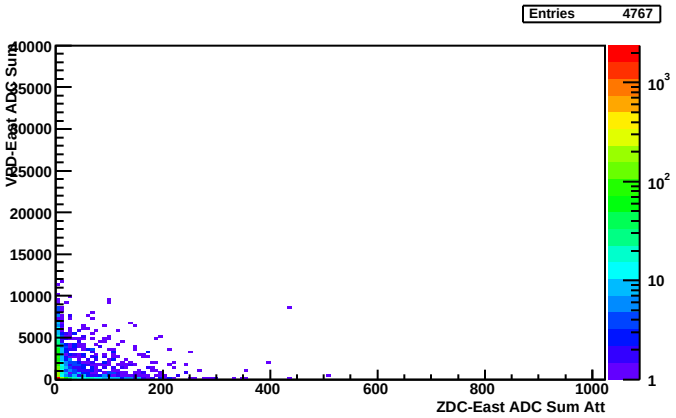

Entries 4767
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

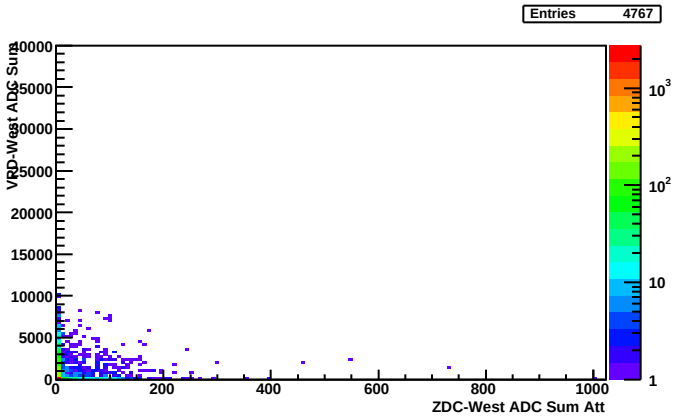

Entries 4767
BBC-S-East ADC Sum
VPD-East ADC Sum

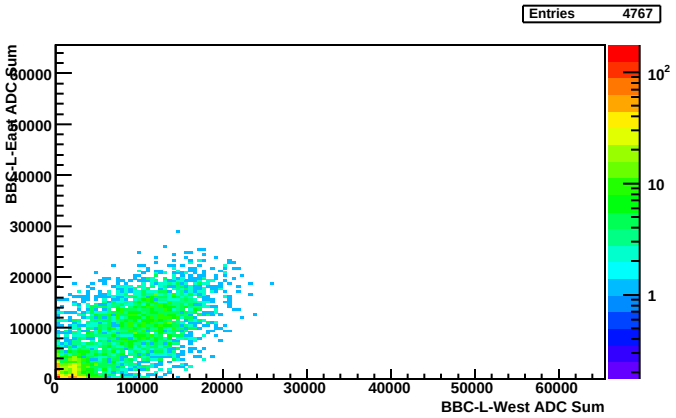

Entries 4767
BBC-S-West ADC Sum
VPD-West ADC Sum

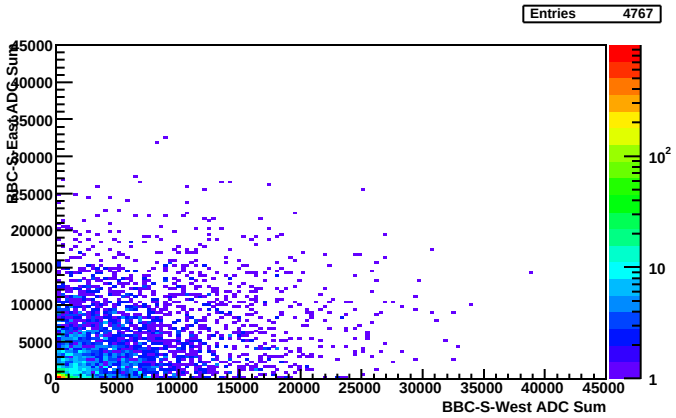

Entries 4767
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

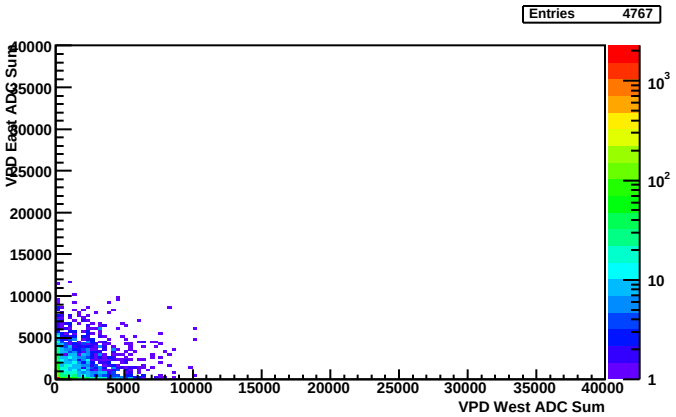

Entries 4767
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

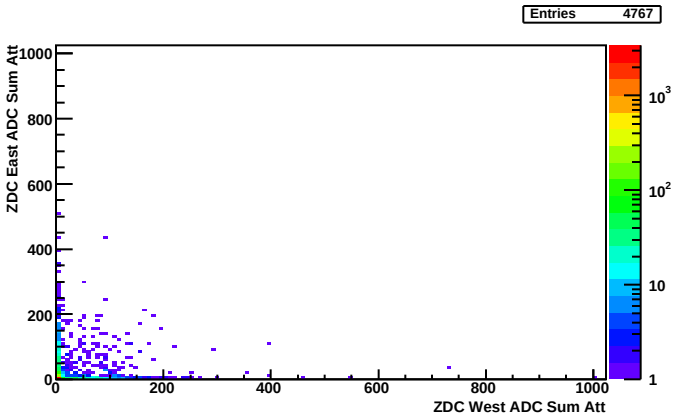

Entries 4767
VPD-East ADC Sum
ZDC-East ADC Sum Att

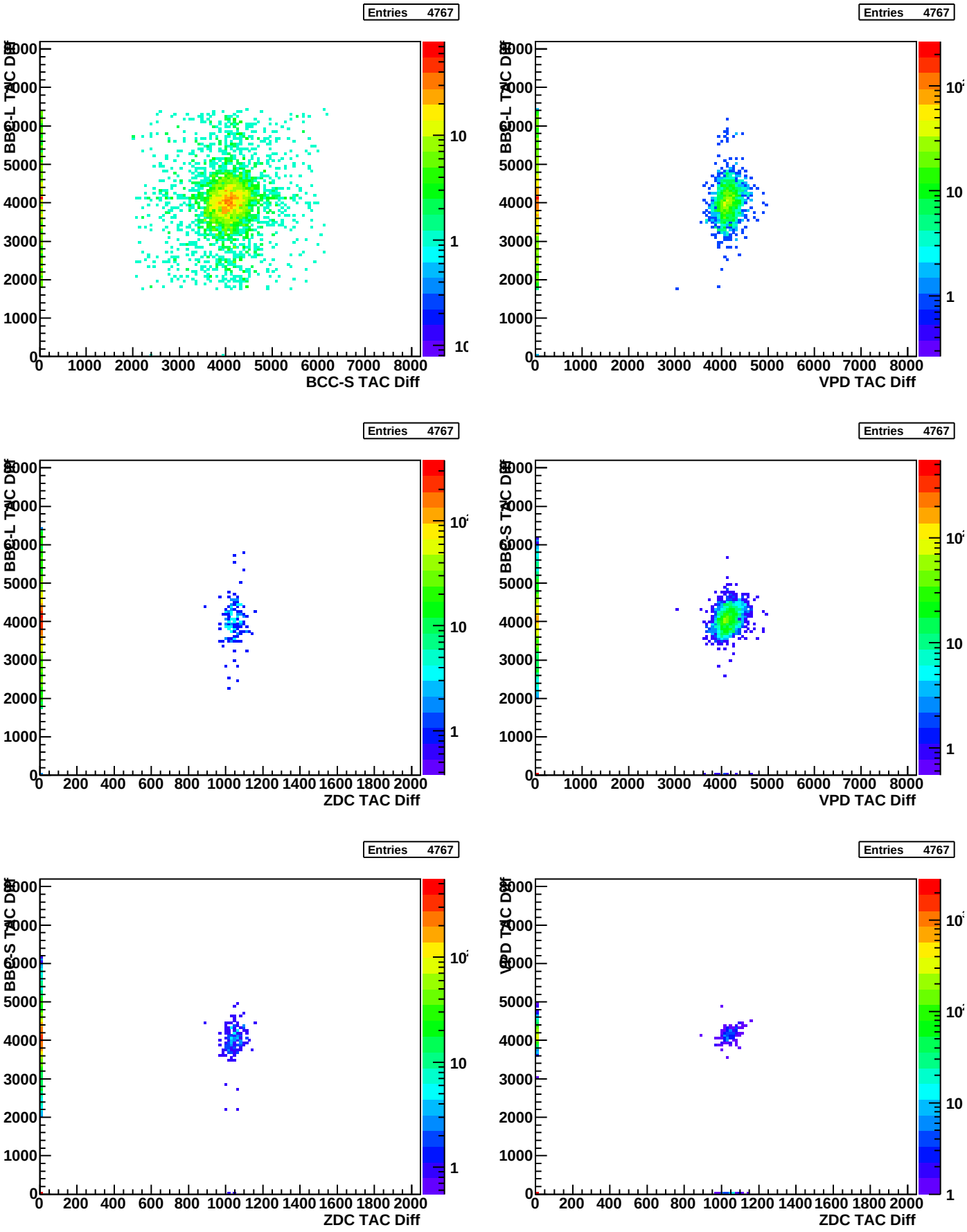

Entries 4767
VPD-West ADC Sum
ZDC-West ADC Sum Att

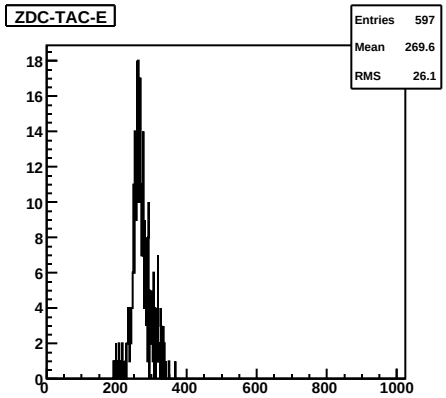

Entries 4767
BBC-L-East ADC Sum
BBC-L-West ADC Sum

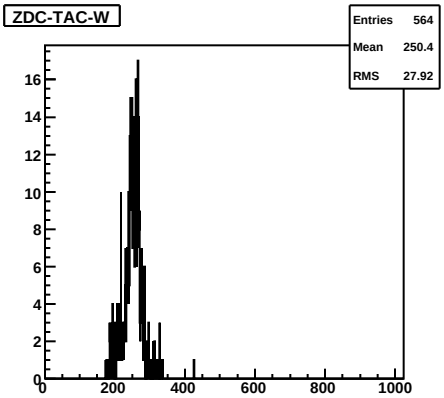

Entries 4767
BBC-S-East ADC Sum
BBC-S-West ADC Sum

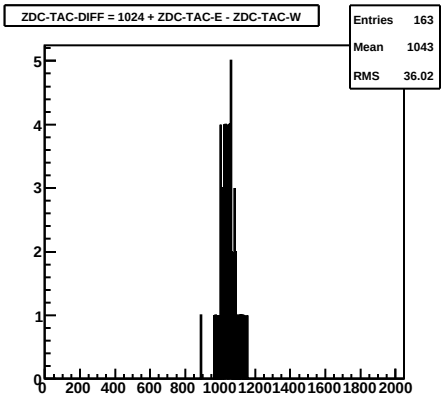

Entries 4767
VPD East ADC Sum
VPD West ADC Sum

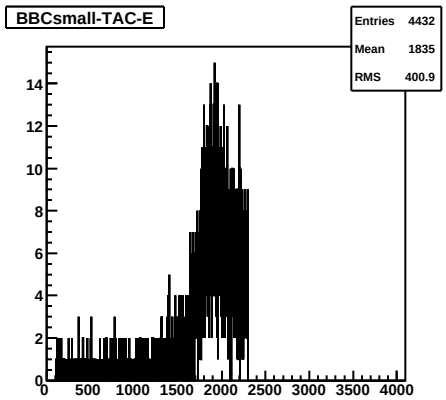

Entries 4767
ZDC East ADC Sum Att
ZDC West ADC Sum Att

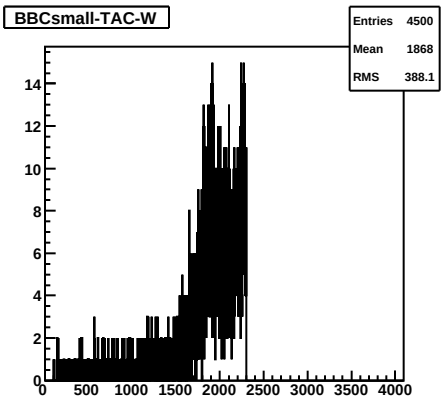

Entries 4767
BBC-L TAC Diff
BCC-S TAC Diff
Entries 4767
BBC-L TAC Diff
VPD TAC Diff
Entries 4767
BBC-L TAC Diff
ZDC TAC Diff
Entries 4767
BBC-S TAC Diff
VPD TAC Diff
Entries 4767
BBC-S TAC Diff
ZDC TAC Diff
Entries 4767
VPD TAC Diff
ZDC TAC Diff

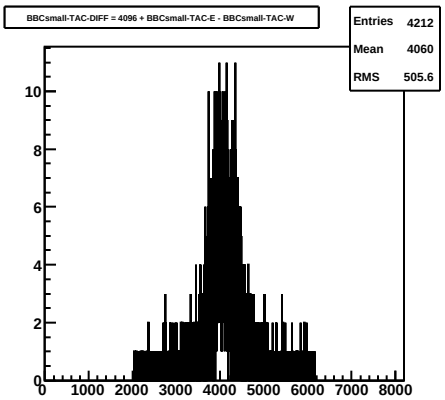

ZDC-TAC-E
Entries 597
Mean 269.6
RMS 26.1

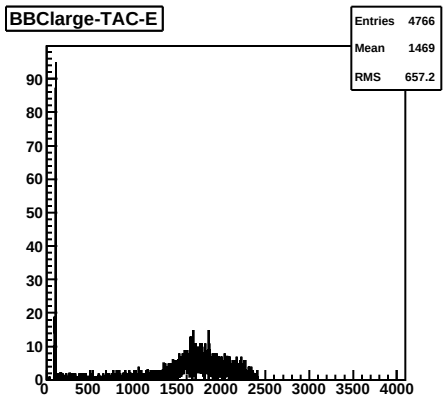

ZDC-TAC-W
Entries 564
Mean 250.4
RMS 27.92

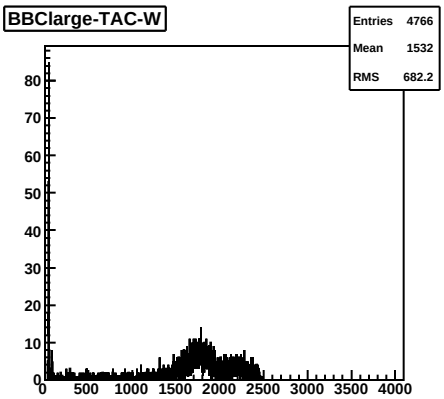

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 163
Mean 1043
RMS 36.02

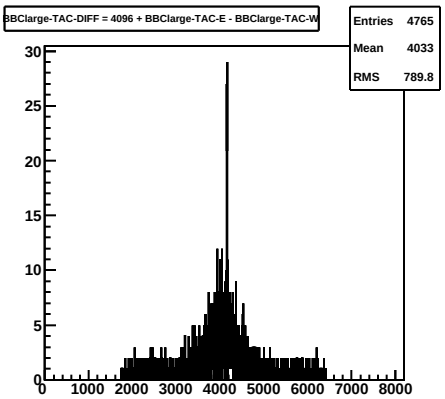

BBCsmall-TAC-E
Entries 4432
Mean 1835
RMS 400.9

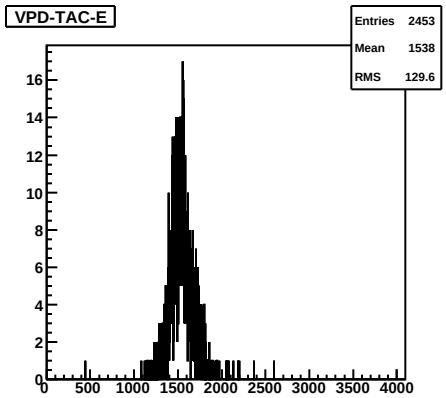

BBCsmall-TAC-W
Entries 4500
Mean 1868
RMS 388.1

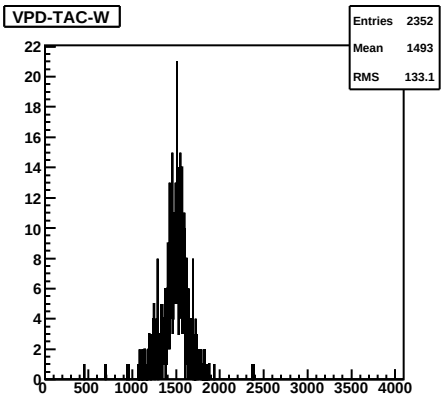

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 4212
Mean 4060
RMS 505.6

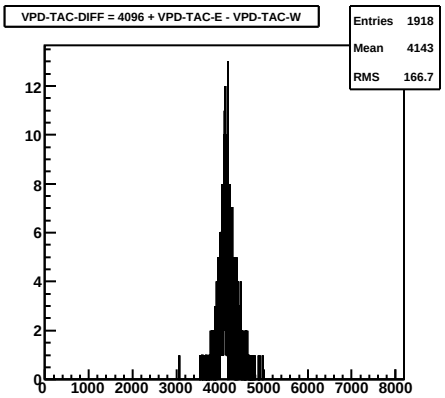

BBClarge-TAC-E
Entries 4766
Mean 1469
RMS 657.2

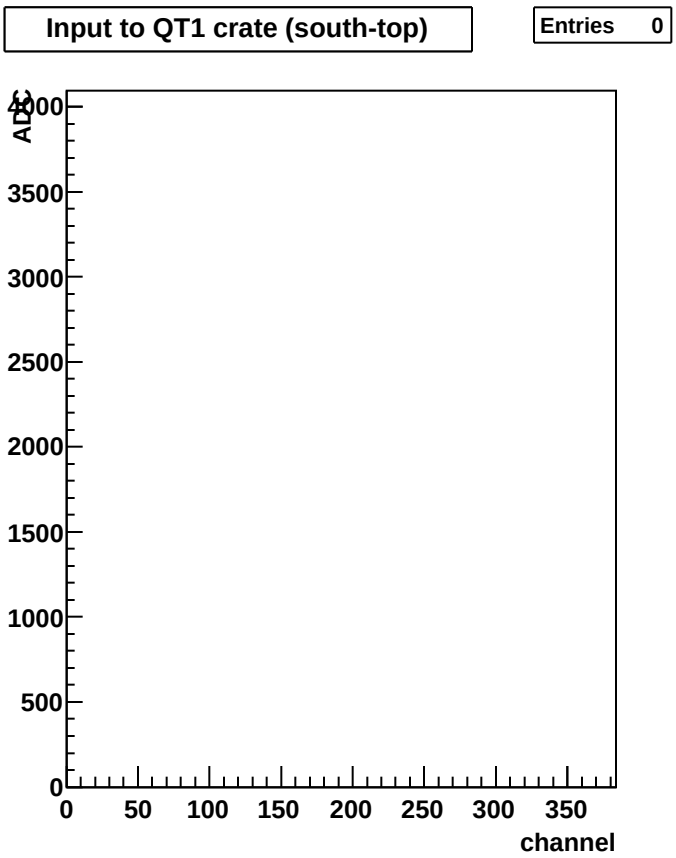

BBClarge-TAC-W
Entries 4766
Mean 1532
RMS 682.2

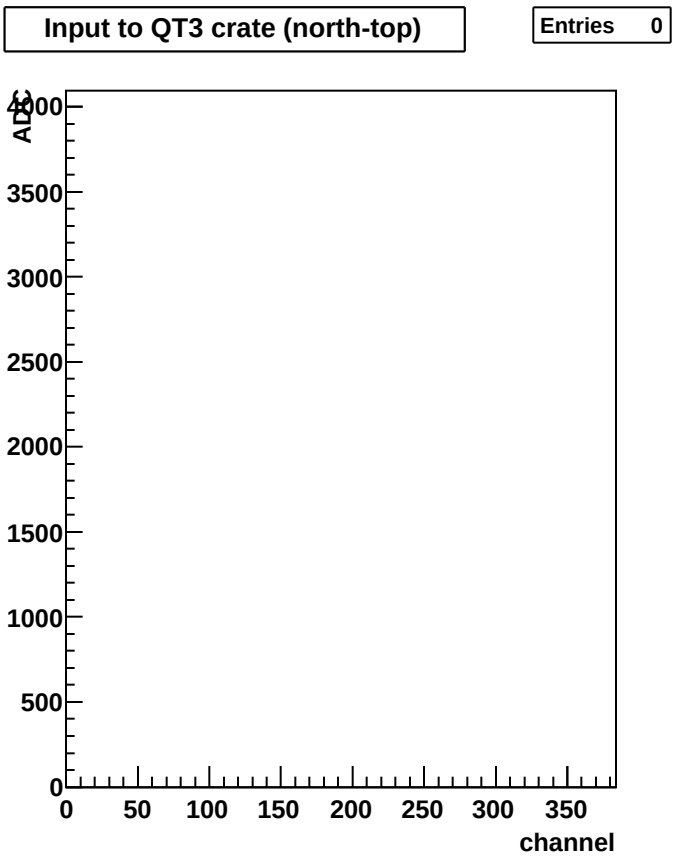

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 4765
Mean 4033
RMS 789.8

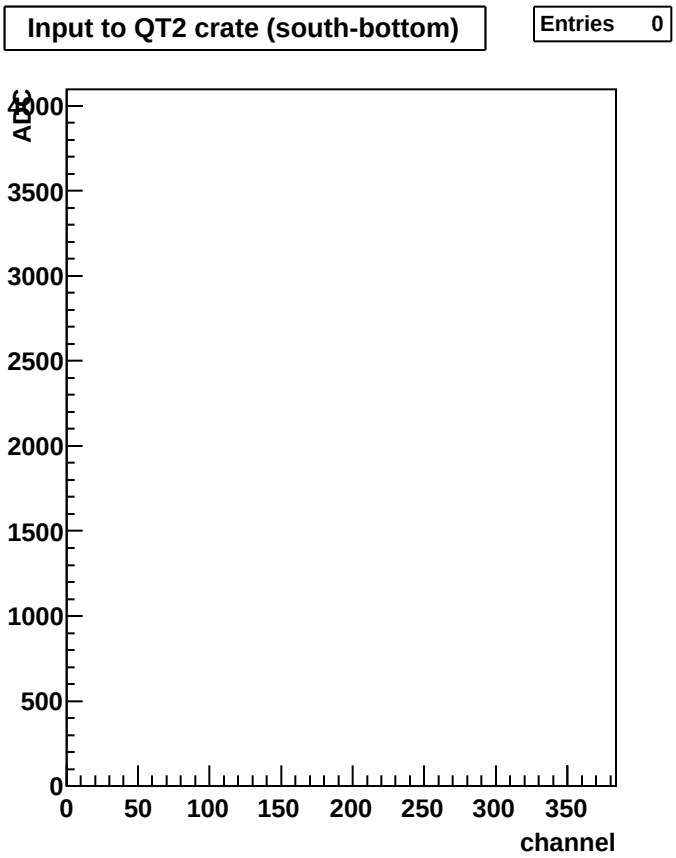

VPD-TAC-E
Entries 2453
Mean 1538
RMS 129.6

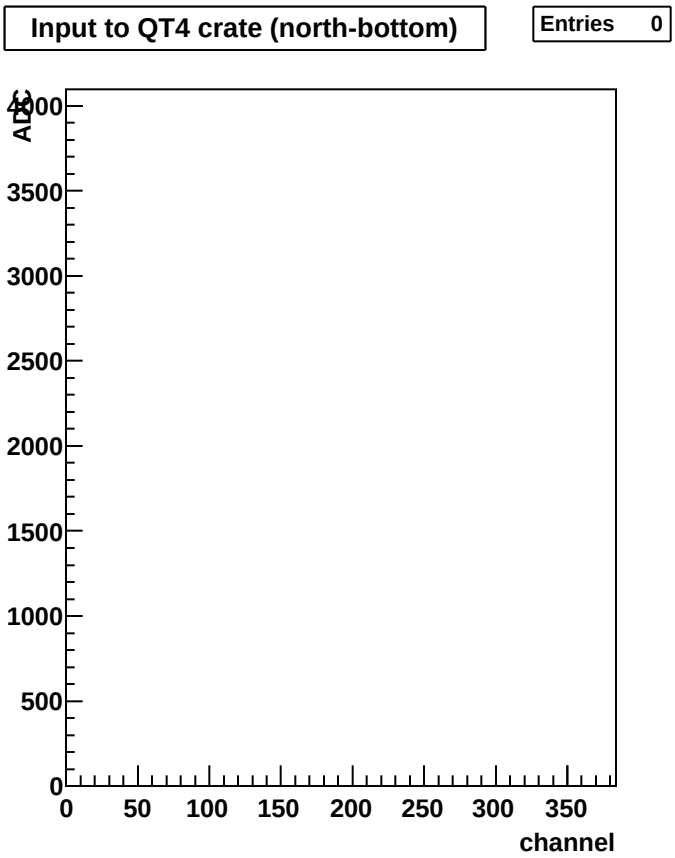

VPD-TAC-W
Entries 2352
Mean 1493
RMS 133.1

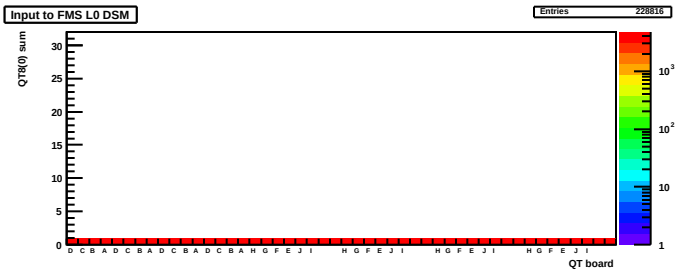

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 1918
Mean 4143
RMS 166.7

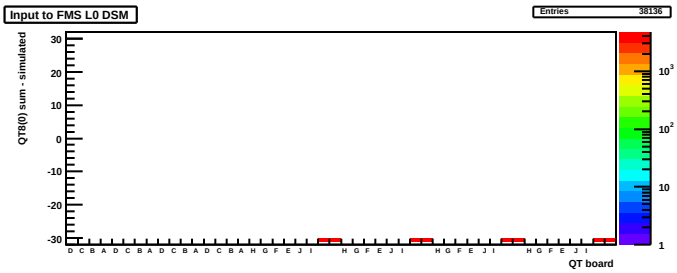

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

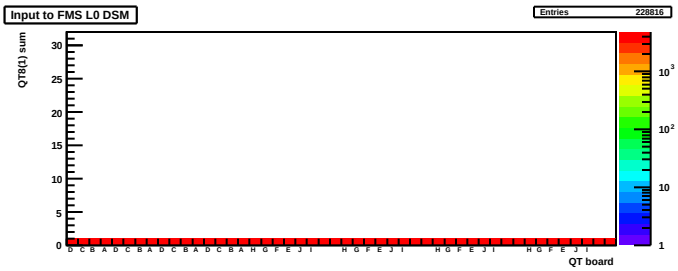

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

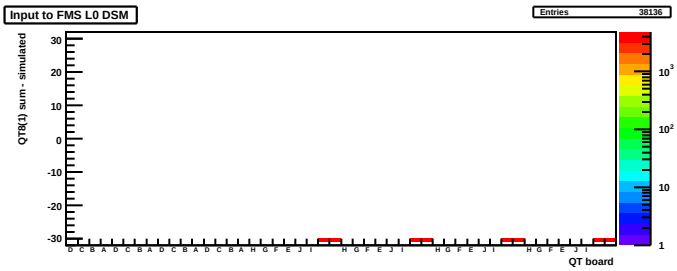

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

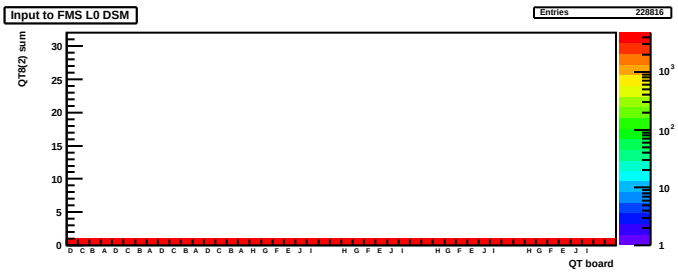

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

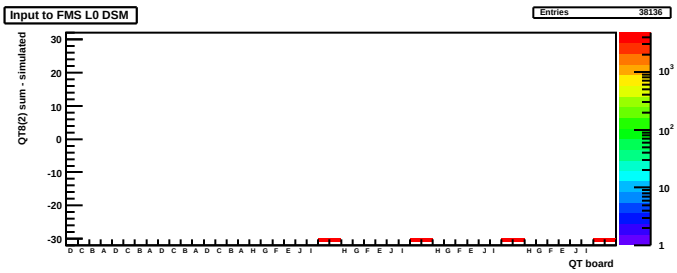

Input to FMS L0 DSM
Entries 228816
QT8(0) sum
QT board

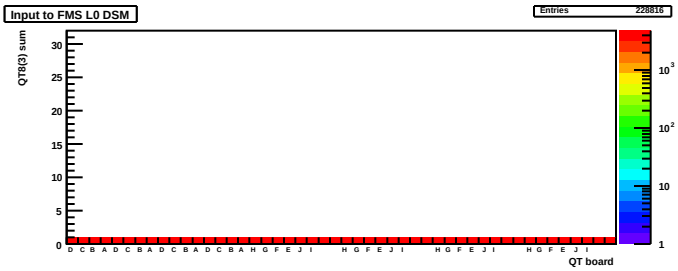

Input to FMS L0 DSM
Entries 38136
QT8(0) sum - simulated
QT board

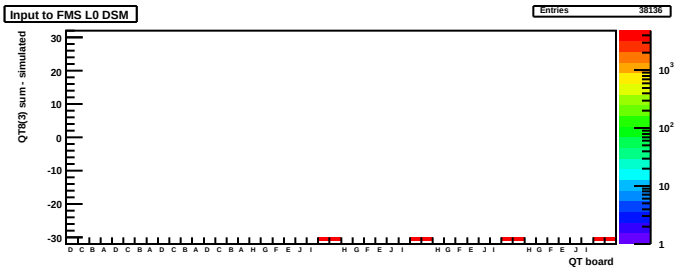

Input to FMS L0 DSM
Entries 228816
QT8(1) sum
QT board

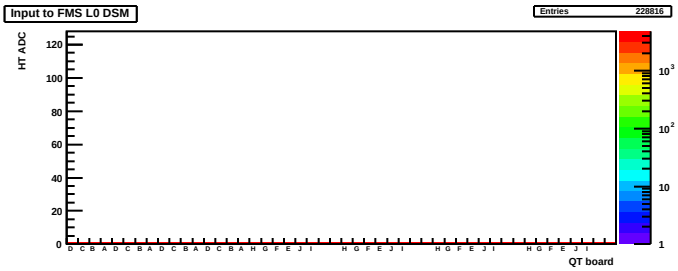

Input to FMS L0 DSM
Entries 38136
QT8(1) sum - simulated
QT board

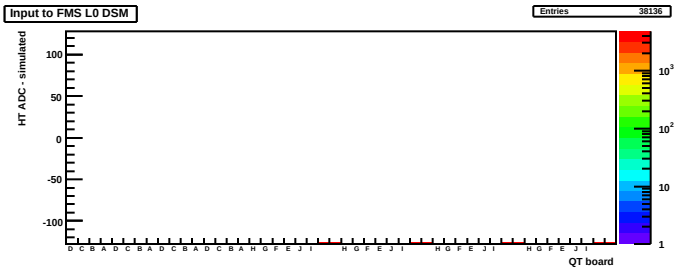

Input to FMS L0 DSM
Entries 228816
QT8(2) sum
QT board

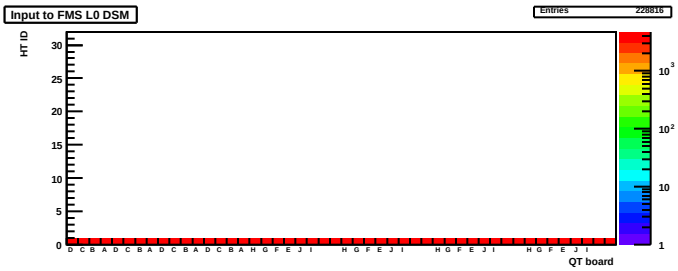

Input to FMS L0 DSM
Entries 38136
QT8(2) sum - simulated
QT board

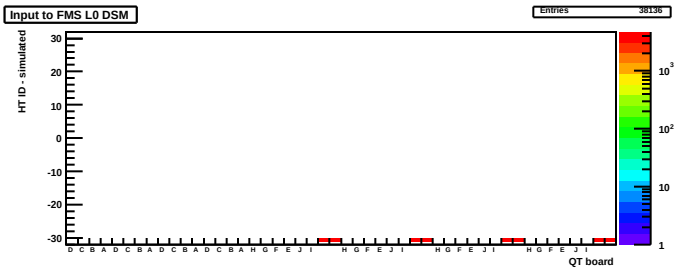

Input to FMS L0 DSM
Entries 228816
QT8(3) sum
QT board

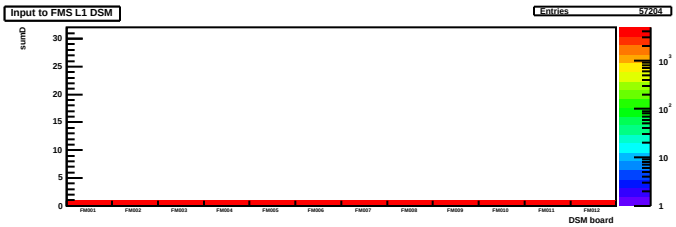

Input to FMS L0 DSM
Entries 38136
QT8(3) sum - simulated
QT board

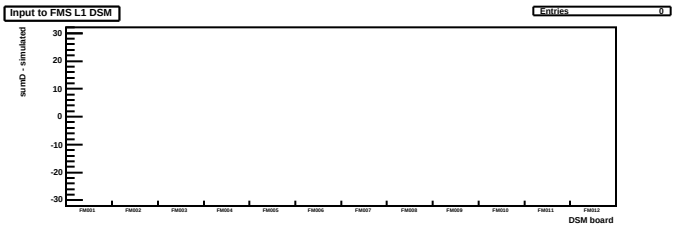

Input to FMS L0 DSM
Entries 228816
HT ADC
QT board

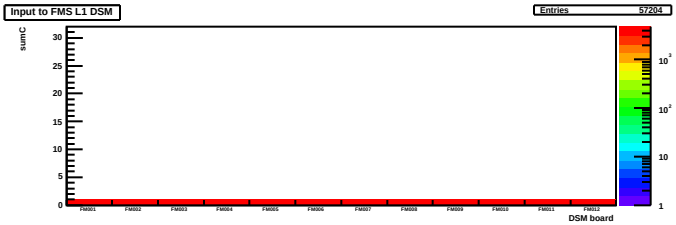

Input to FMS L0 DSM
Entries 38136
HT ADC - simulated
QT board

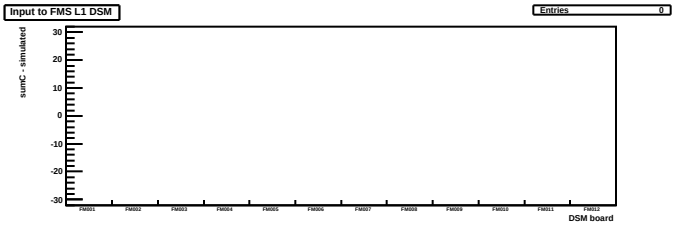

Input to FMS L0 DSM
Entries 228816
HT ID
QT board

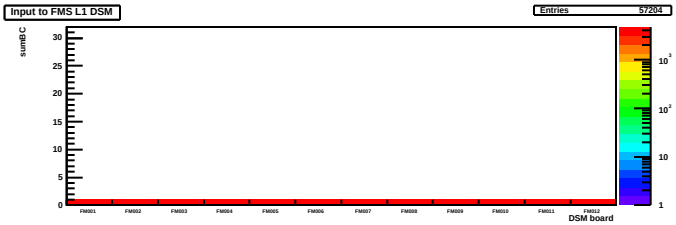

Input to FMS L0 DSM
Entries 38136
HT ID - simulated
QT board

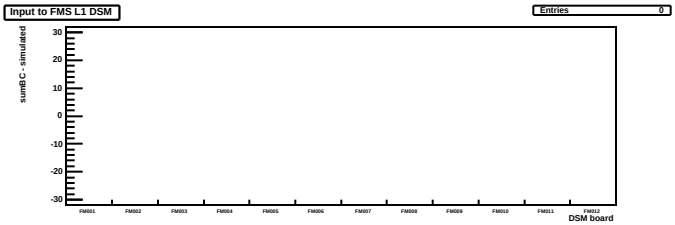

Input to FMS L1 DSM
Entries 57204
sumD
DSM board

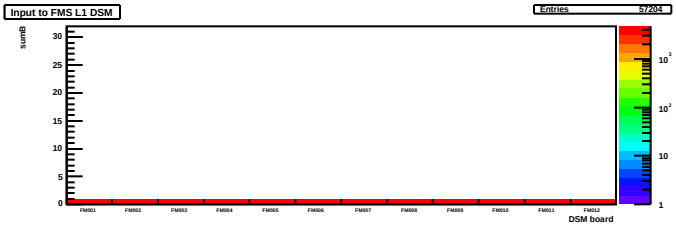

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

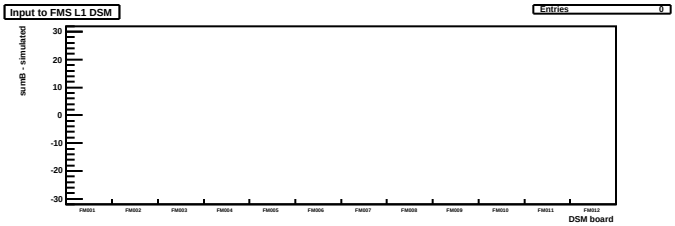

Input to FMS L1 DSM
Entries 57204
sumC
DSM board

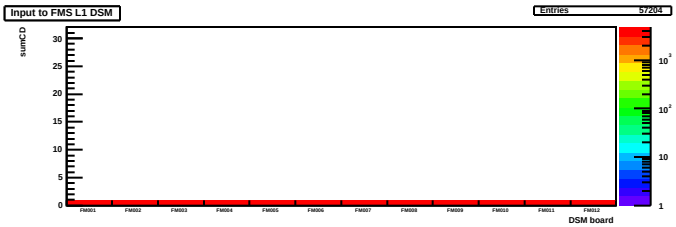

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

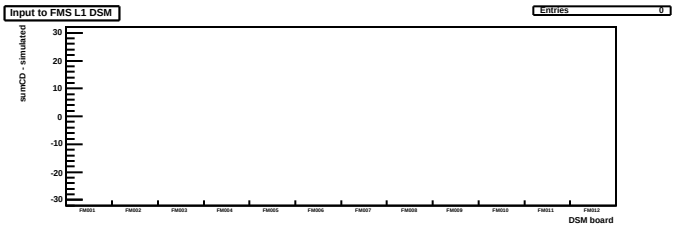

Input to FMS L1 DSM
Entries 57204
sumBC
DSM board

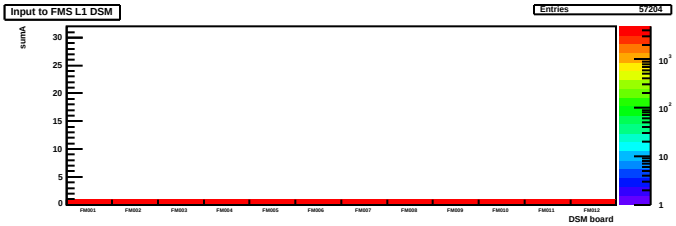

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

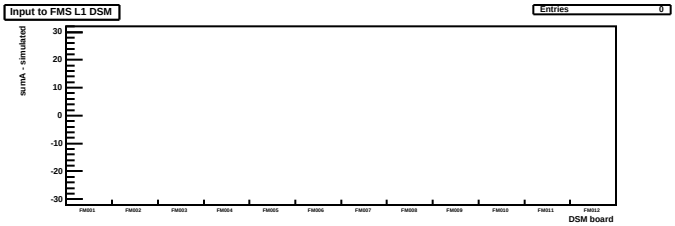

Input to FMS L1 DSM
Entries 57204
sumB
DSM board

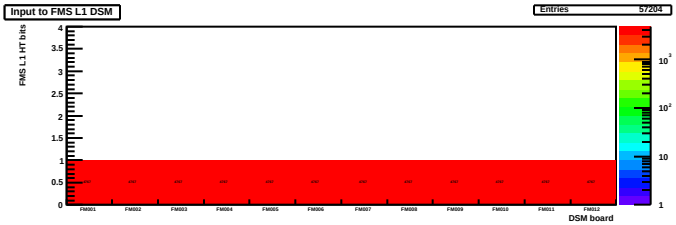

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

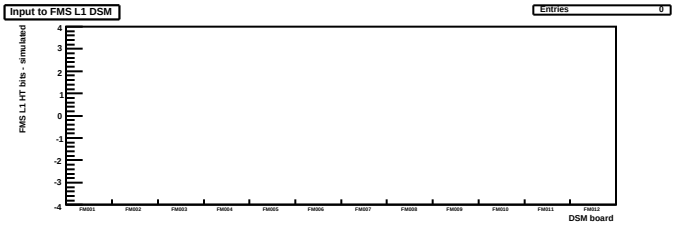

Input to FMS L1 DSM
Entries 57204
sumCD
DSM board

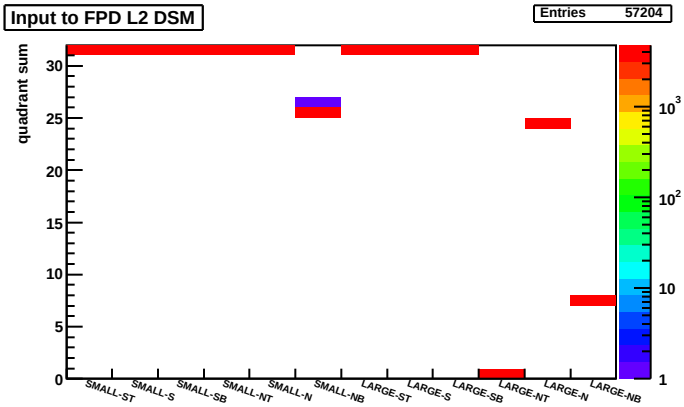

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

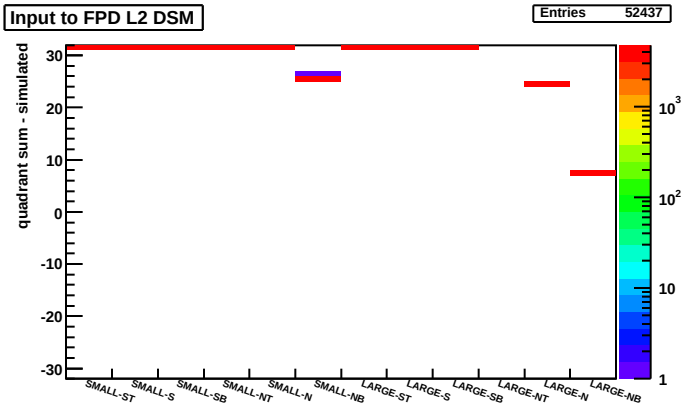

Input to FMS L1 DSM
Entries 57204
sumA
DSM board

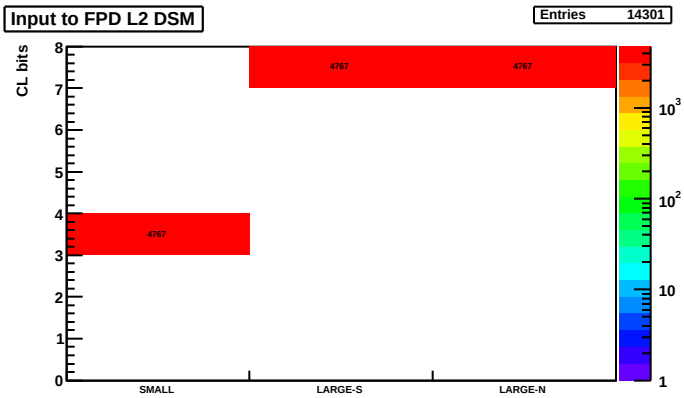

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

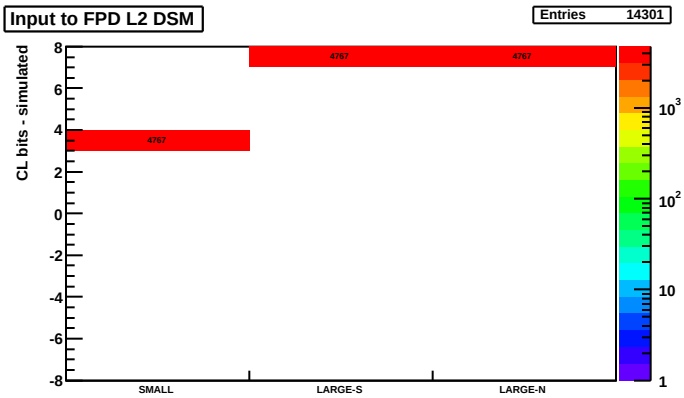

Input to FMS L1 DSM
Entries 57204
FMS L1 HT bits
DSM board

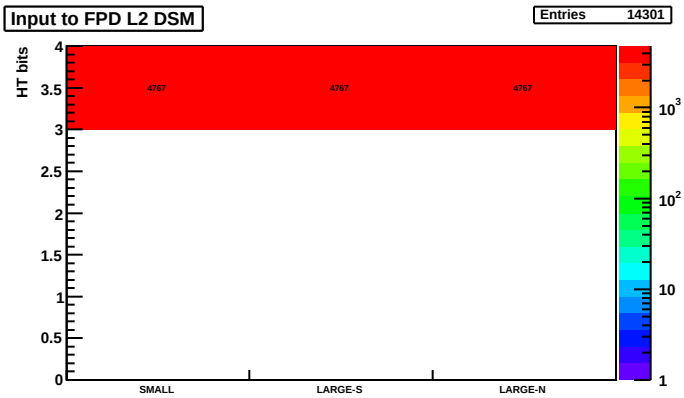

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

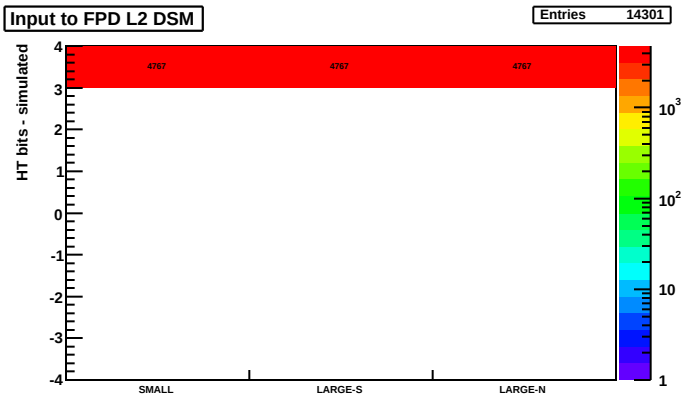

Input to FPD L2 DSM
Entries 57204
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

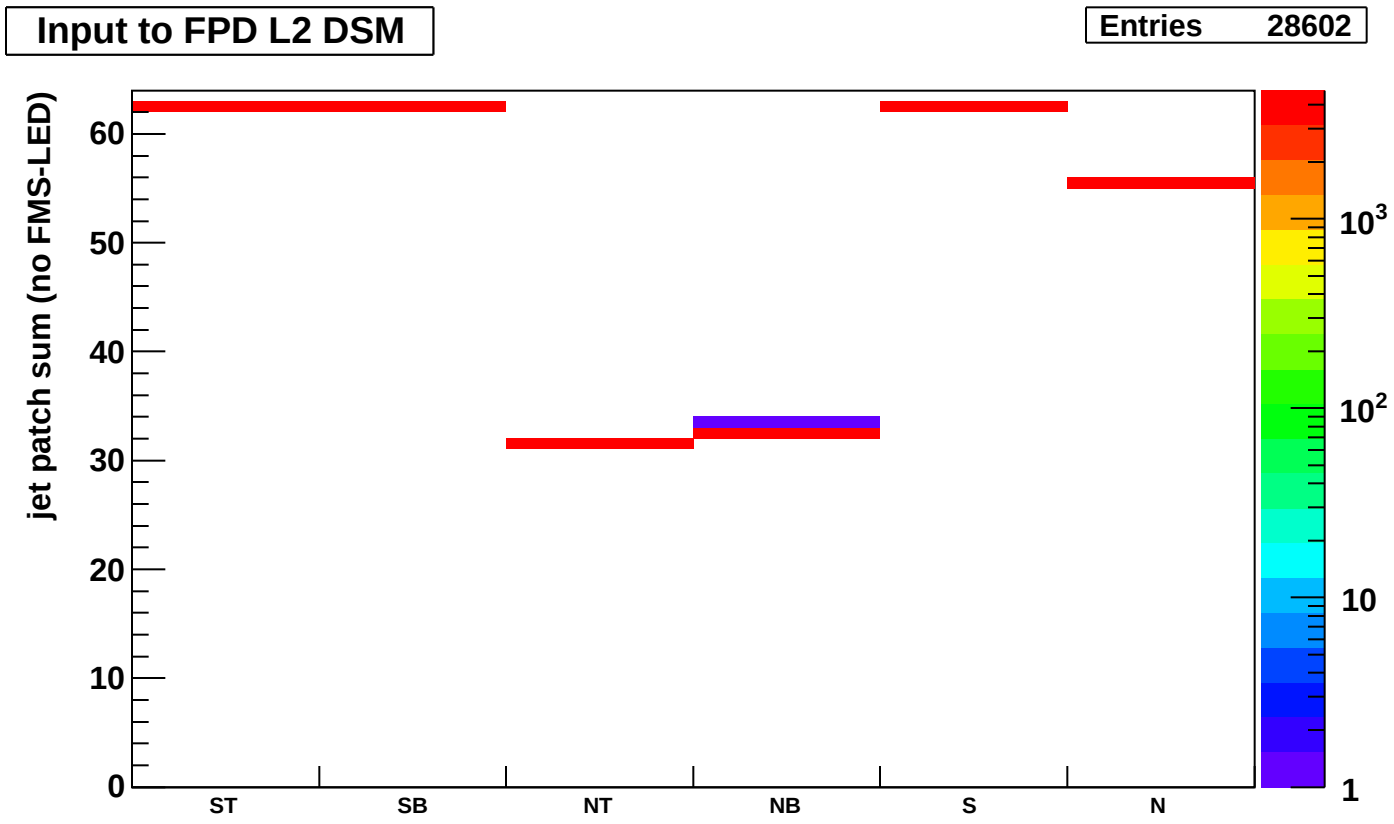

Input to FPD L2 DSM
Entries 52437
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

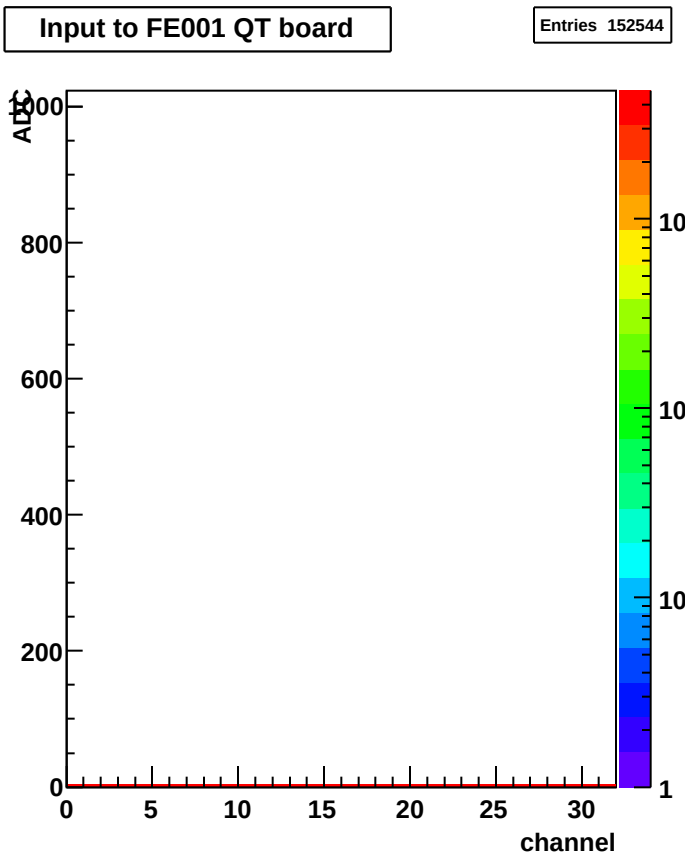

Input to FPD L2 DSM
Entries 14301
CL bits
4767
4767
4767
SMALL
LARGE-S
LARGE-N

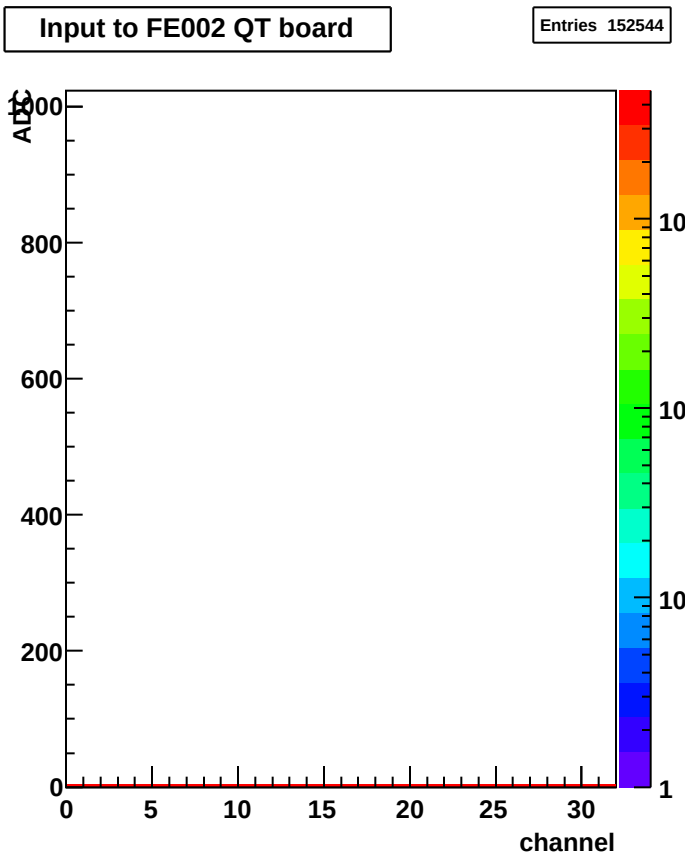

Input to FPD L2 DSM
Entries 14301
CL bits - simulated
4767
4767
4767
SMALL
LARGE-S
LARGE-N

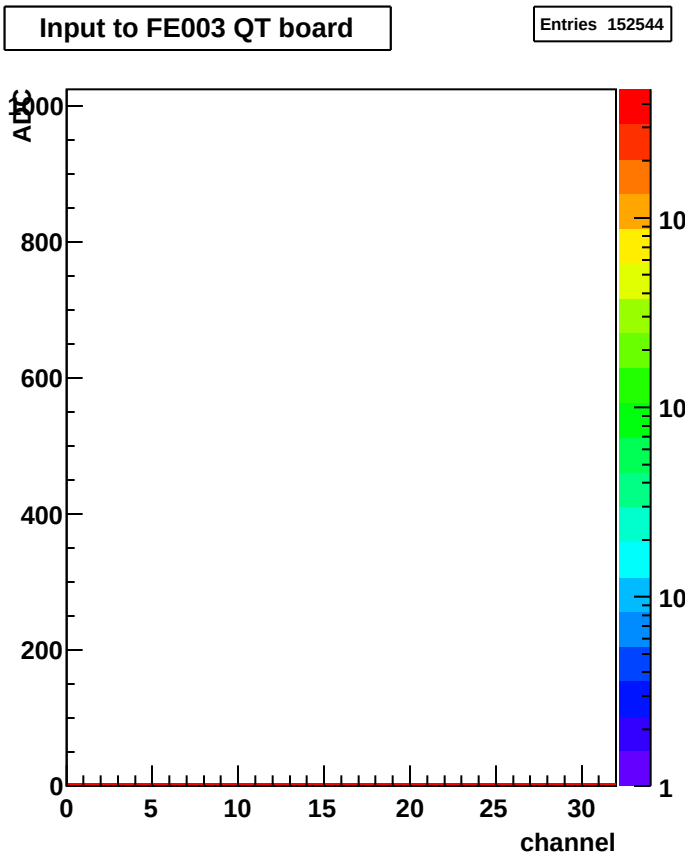

Input to FPD L2 DSM
Entries 14301
HT bits
4767
4767
4767
SMALL
LARGE-S
LARGE-N

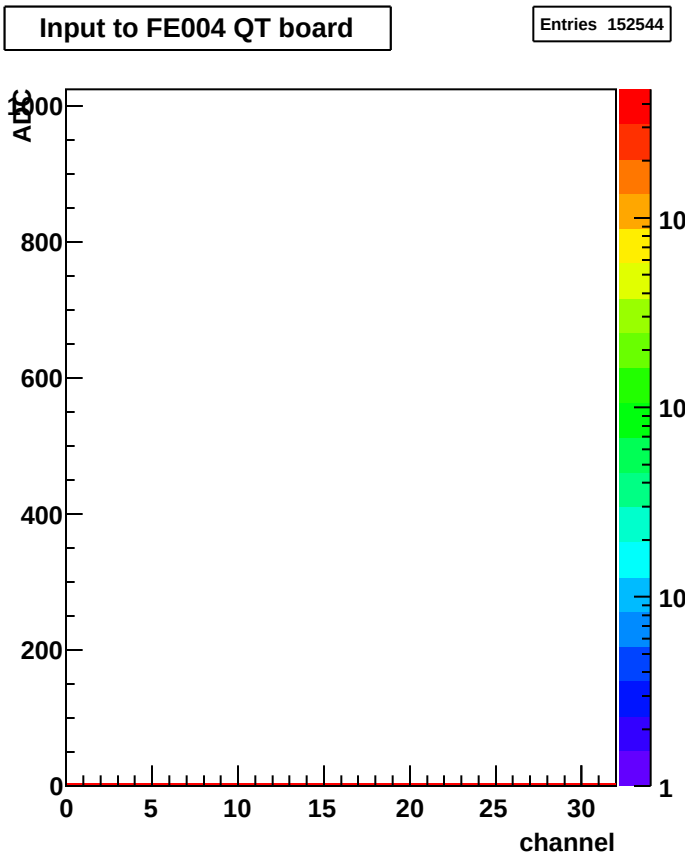

Input to FPD L2 DSM
Entries 14301
HT bits - simulated
4767
4767
4767
SMALL
LARGE-S
LARGE-N

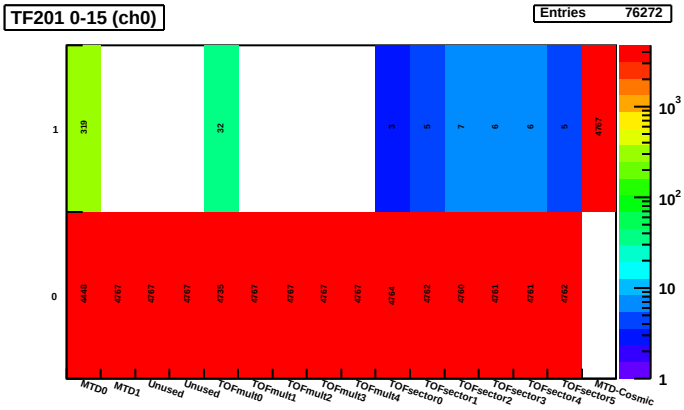

Input to FPD L2 DSM
Entries 28602
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3

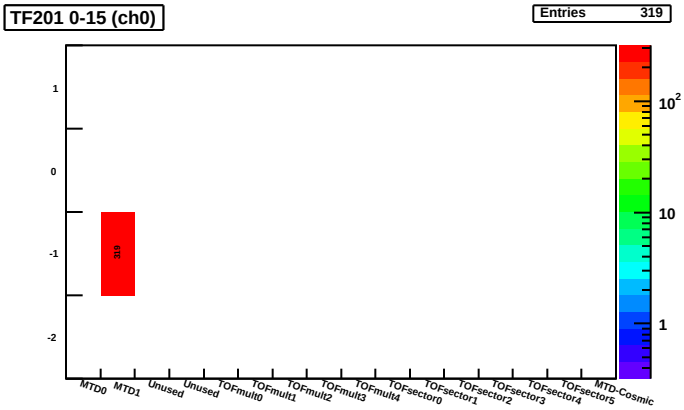

Input to FE001 QT board
Entries 152544
ADC
channel

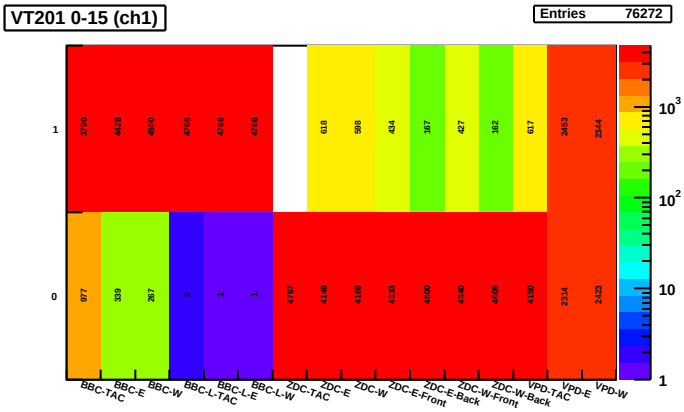

Input to FE002 QT board
Entries 152544
ADC
channel

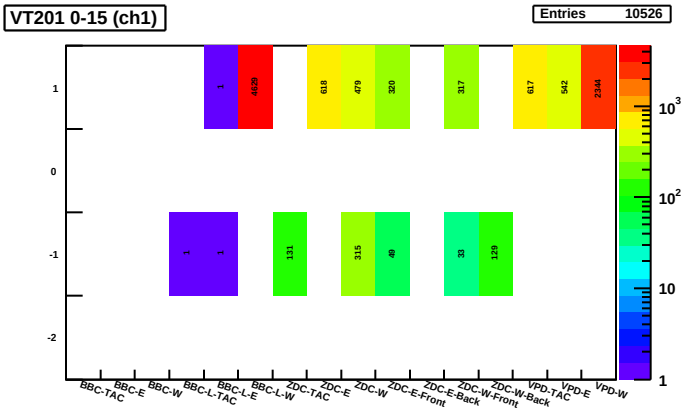

Input to FE003 QT board
Entries 152544
ADC
channel

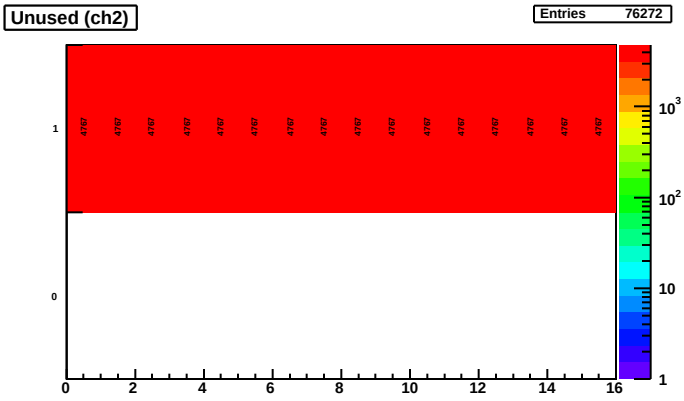

Input to FE004 QT board
Entries 152544
ADC
channel

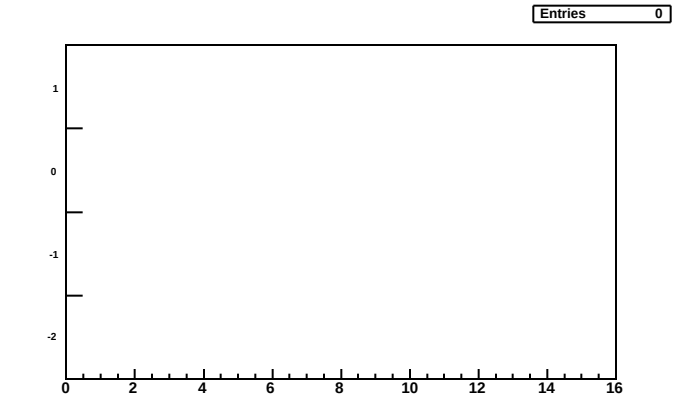

TF201 0-15 (ch0)
Entries 76272
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

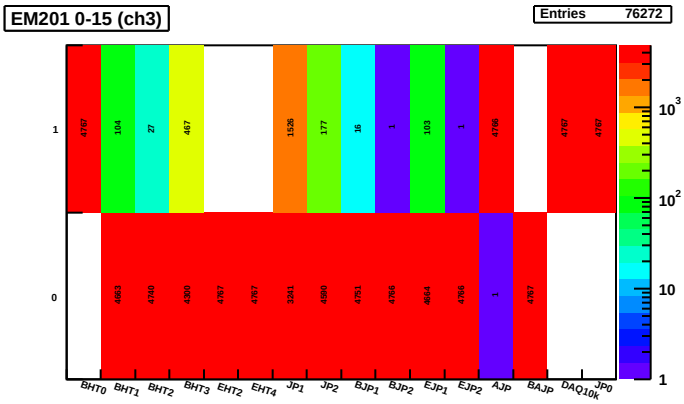

TF201 0-15 (ch0)
Entries 319
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 76272
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 10526
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


Unused (ch2)
Entries 76272


Entries 0


EM201 0-15 (ch3)
Entries 76272
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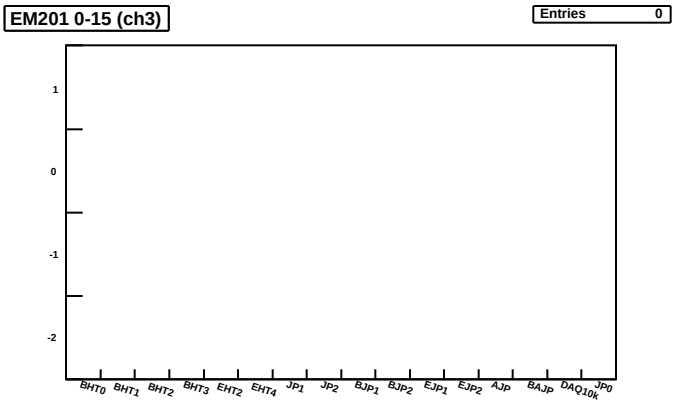
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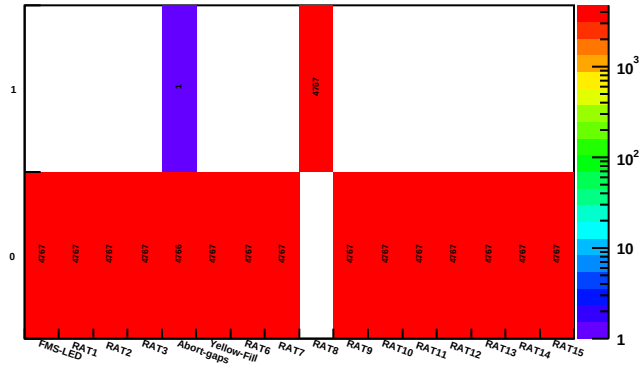
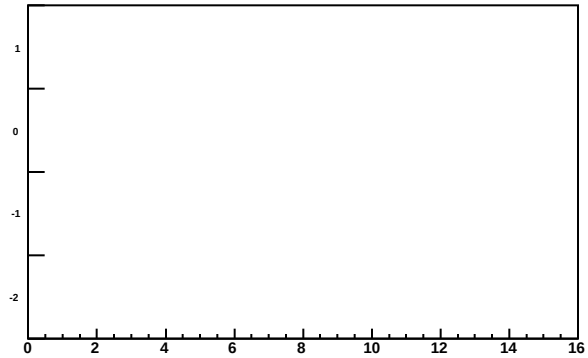
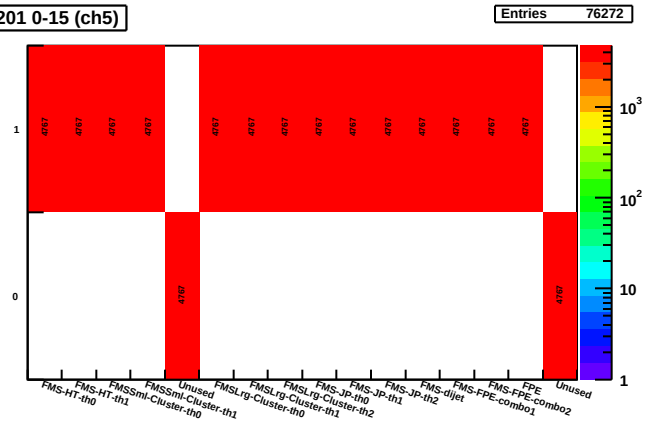
RAT board (ch4)





FP201 0-15 (ch5)



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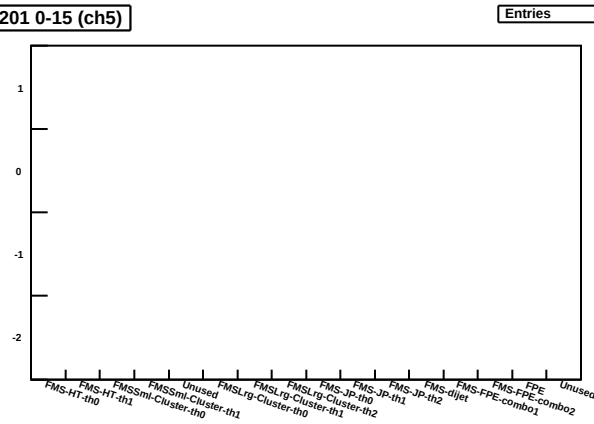
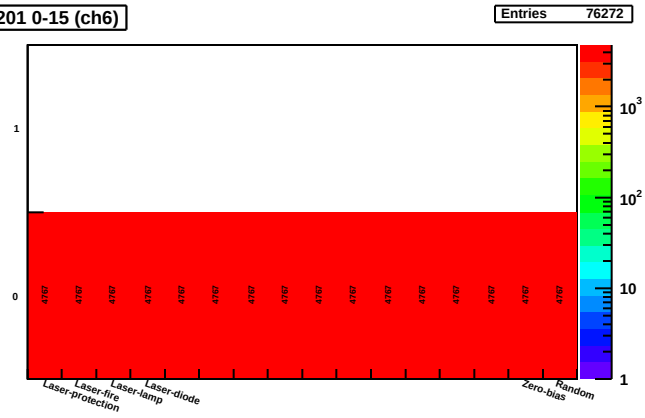
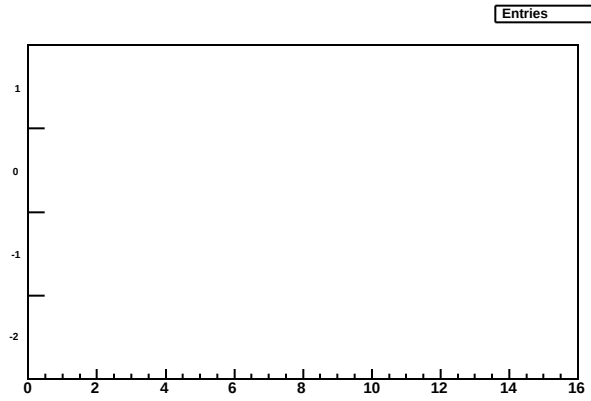
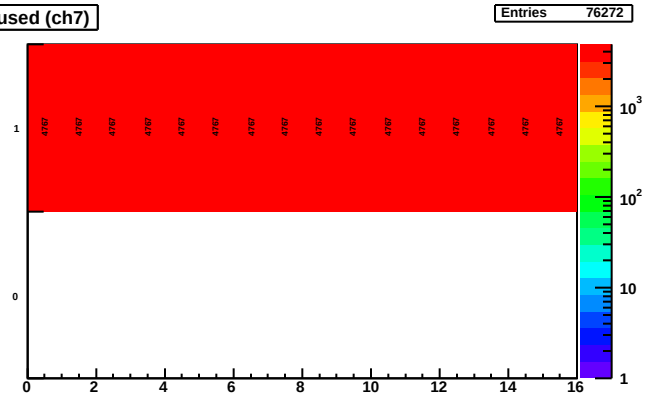
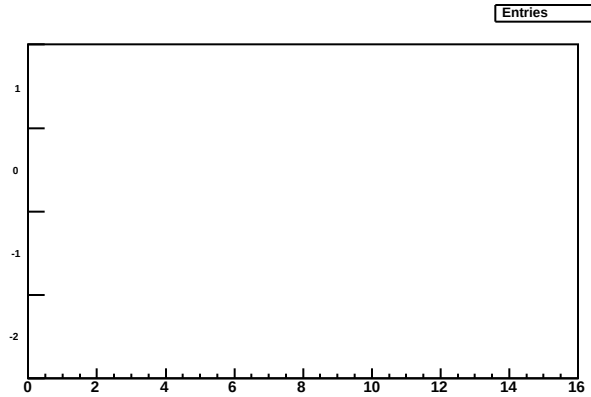


ST201 0-15 (ch6)





Unused (ch7)