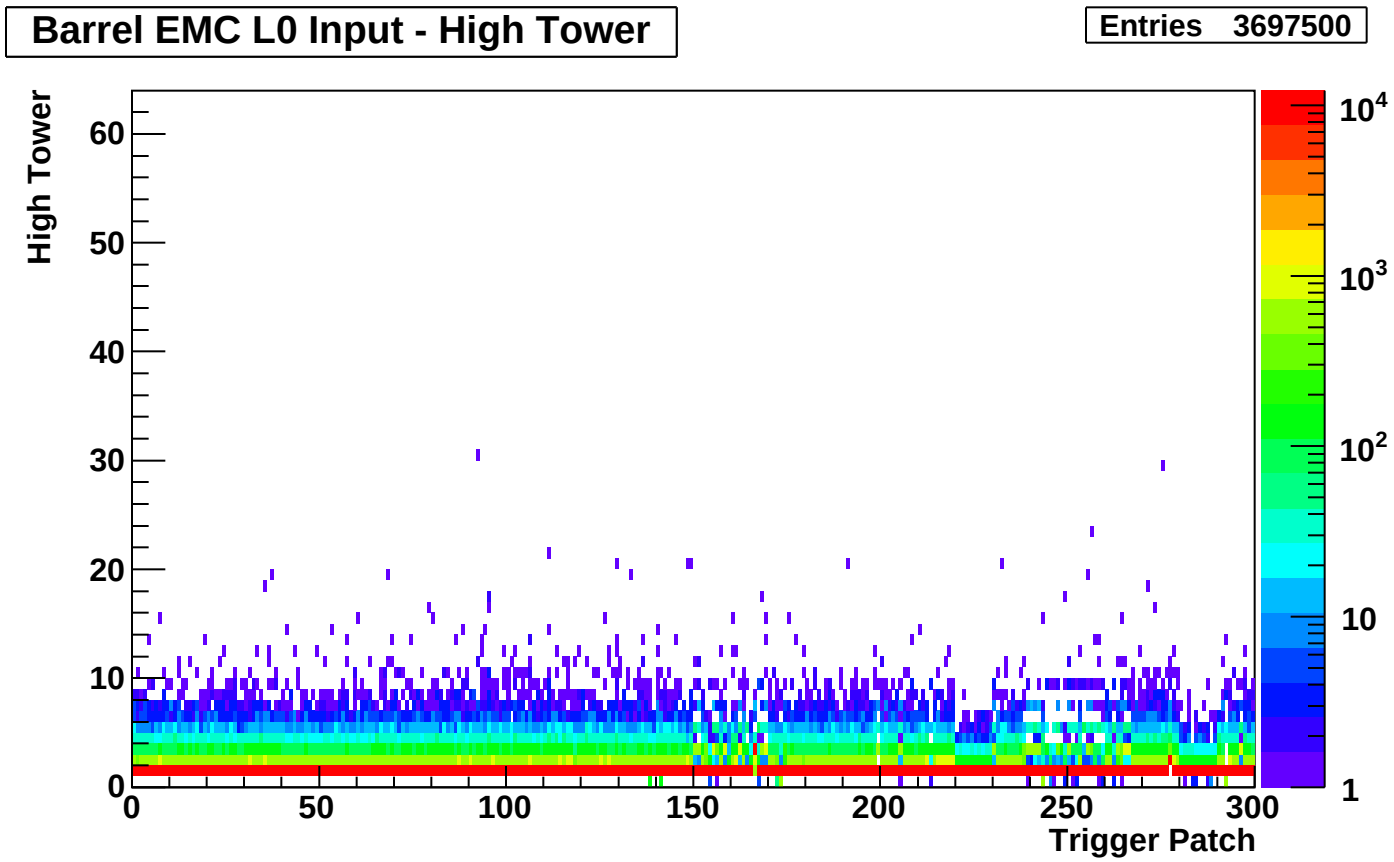
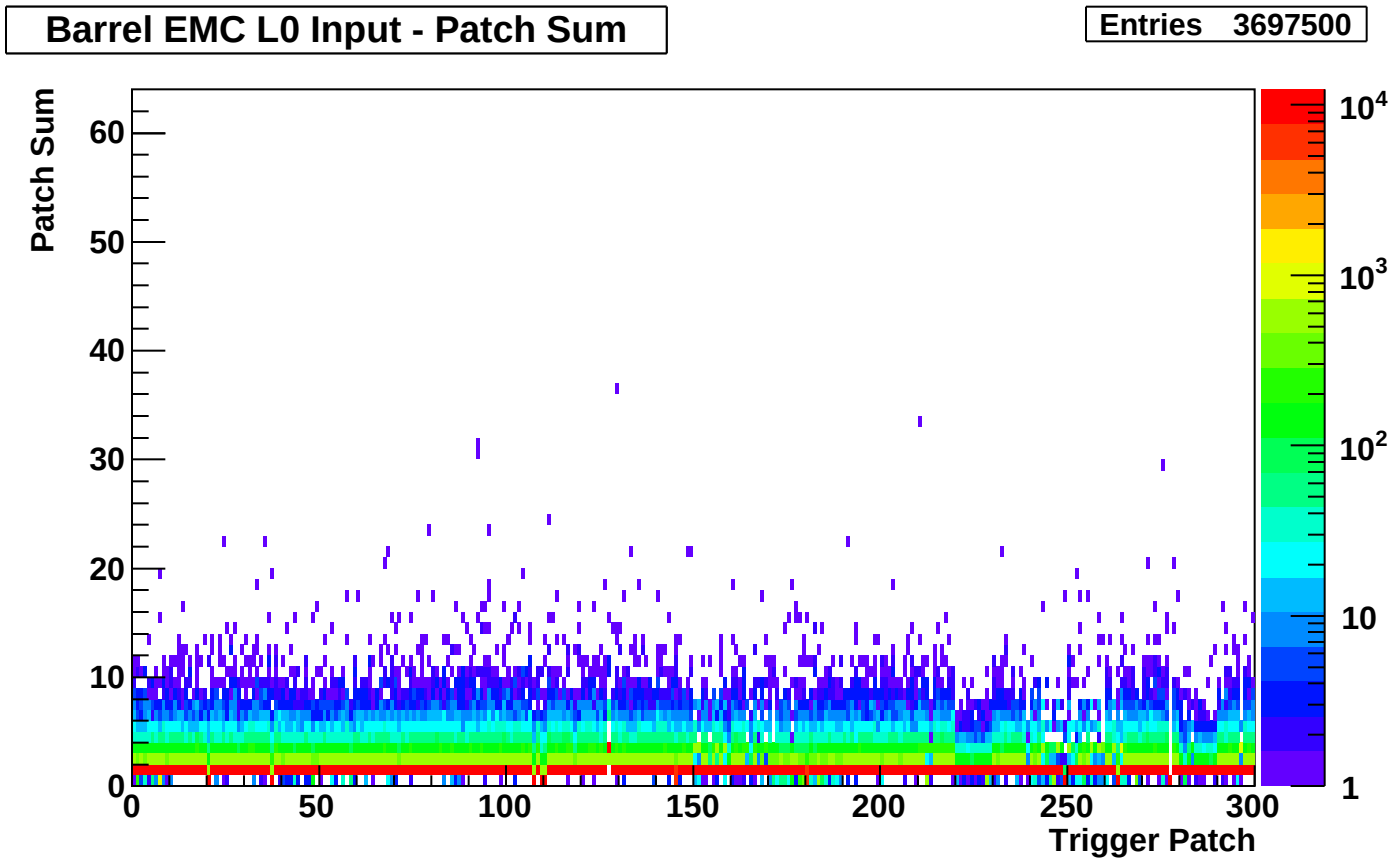
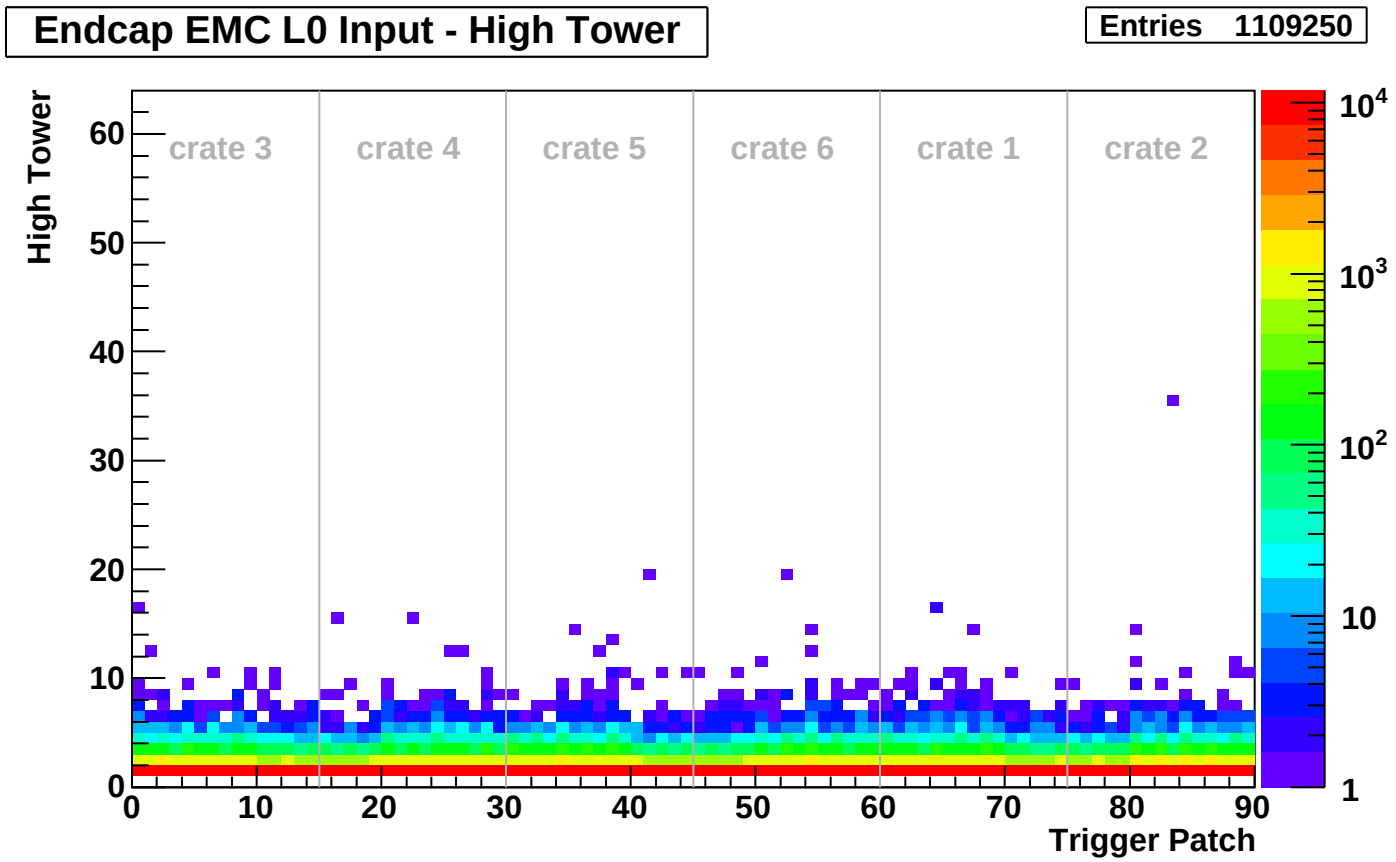
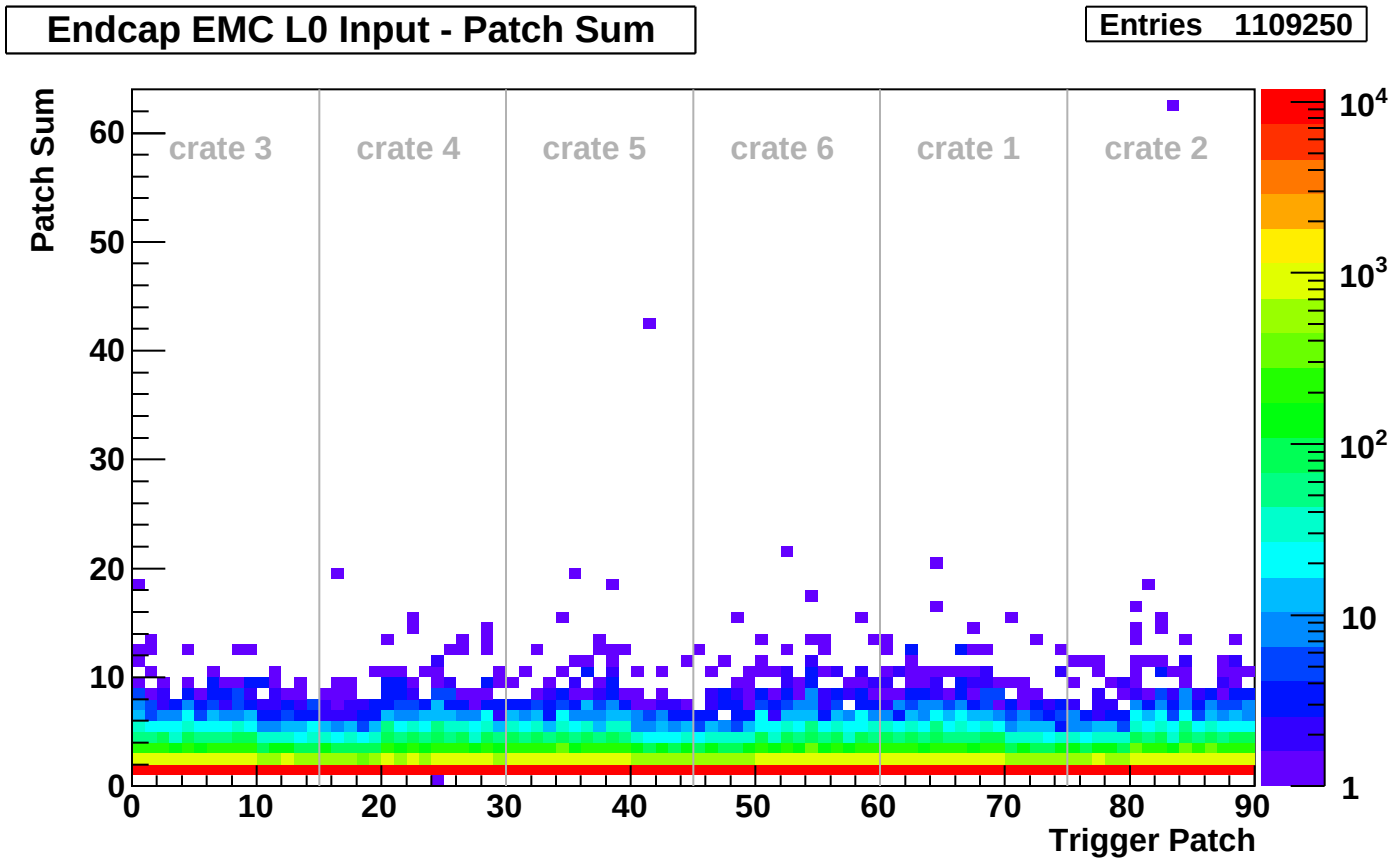
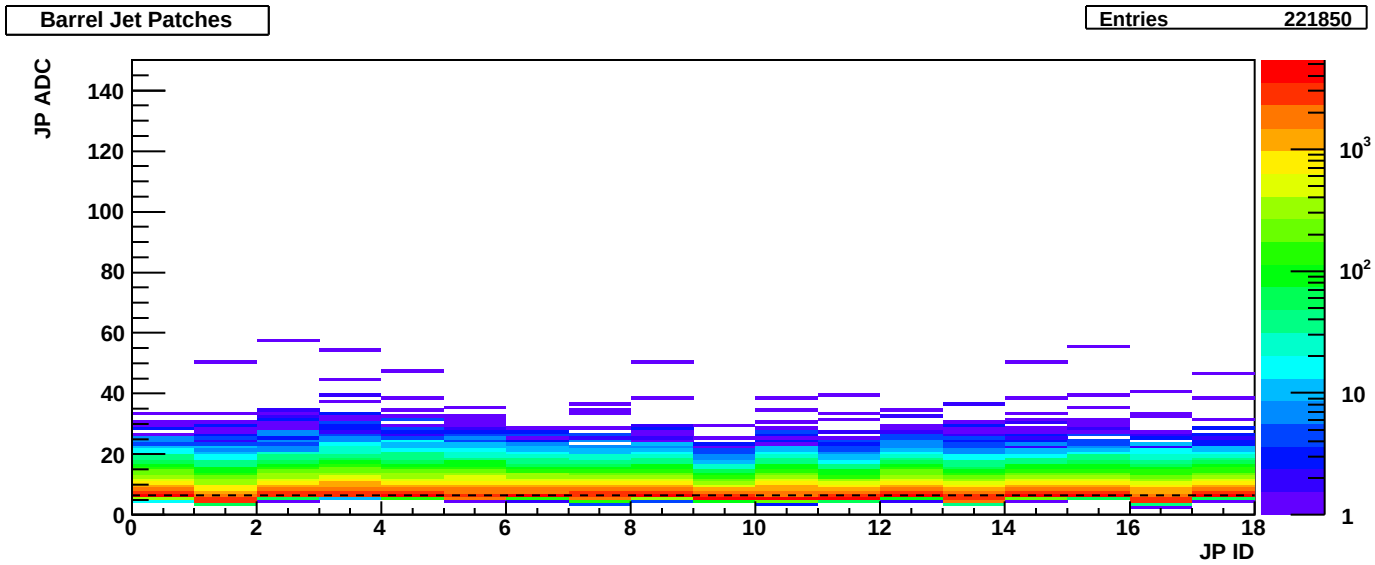
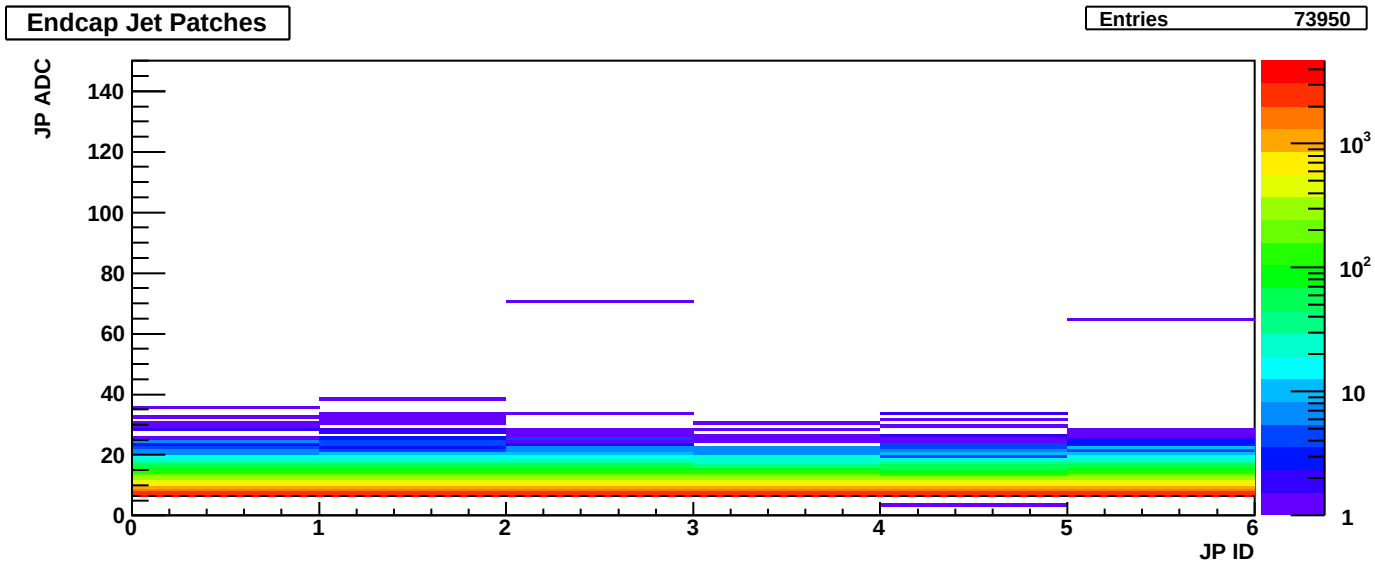

Barrel EMC L0 Input - High Tower
Entries 3697500
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

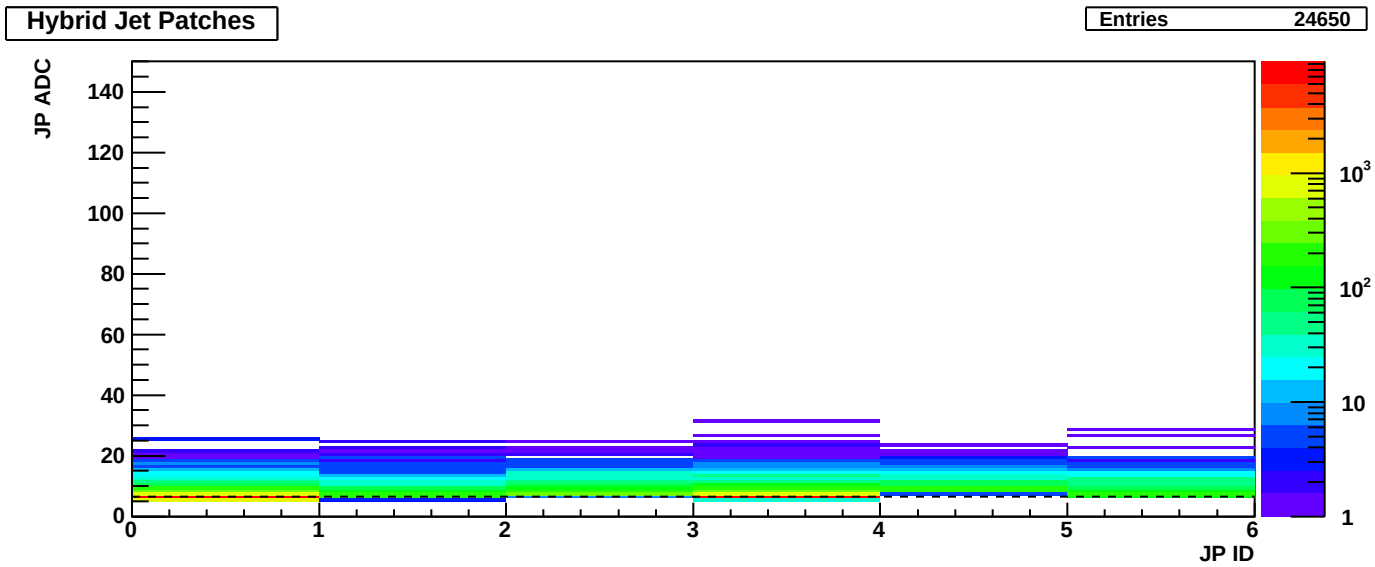

Barrel EMC L0 Input - Patch Sum
Entries 3697500
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

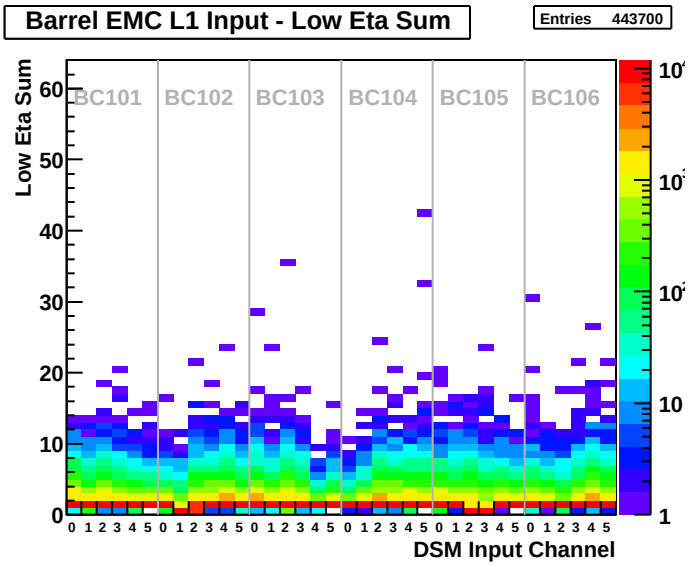

Endcap EMC L0 Input - High Tower
Entries 1109250
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

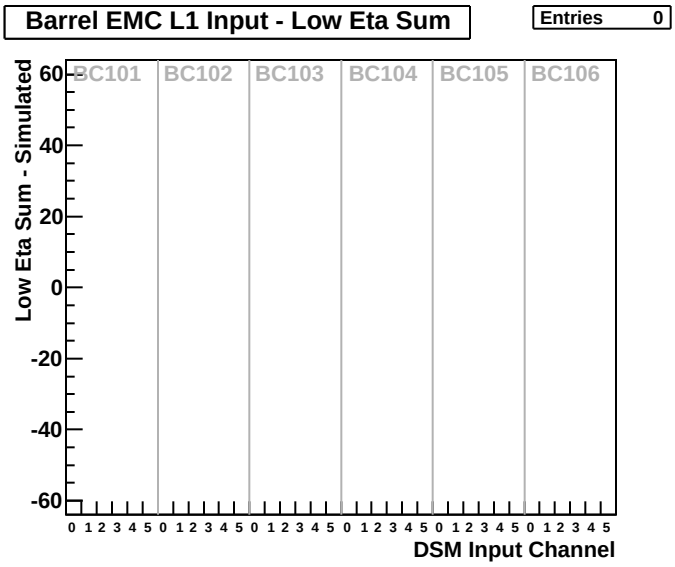

Endcap EMC L0 Input - Patch Sum
Entries 1109250
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

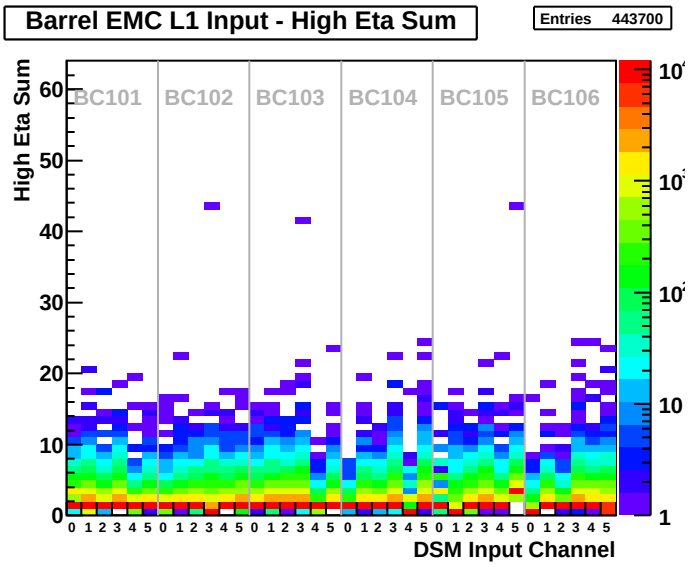

Barrel Jet Patches
Entries 221850
JP ADC
JP ID

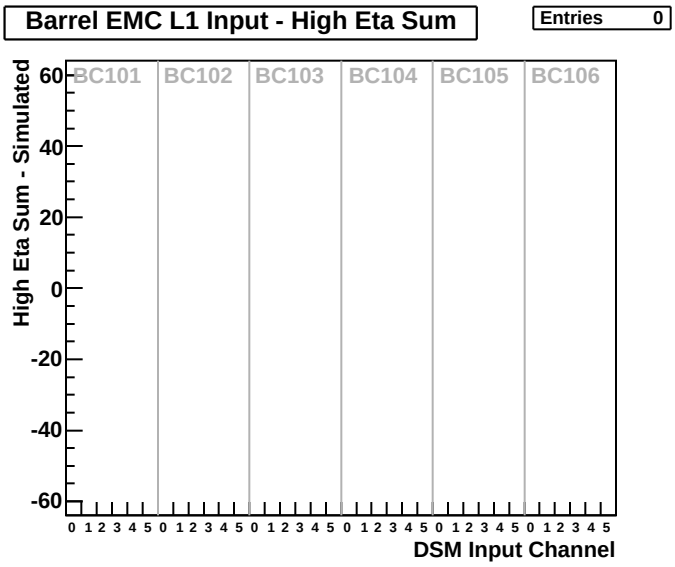

Endcap Jet Patches
Entries 73950
JP ADC
JP ID

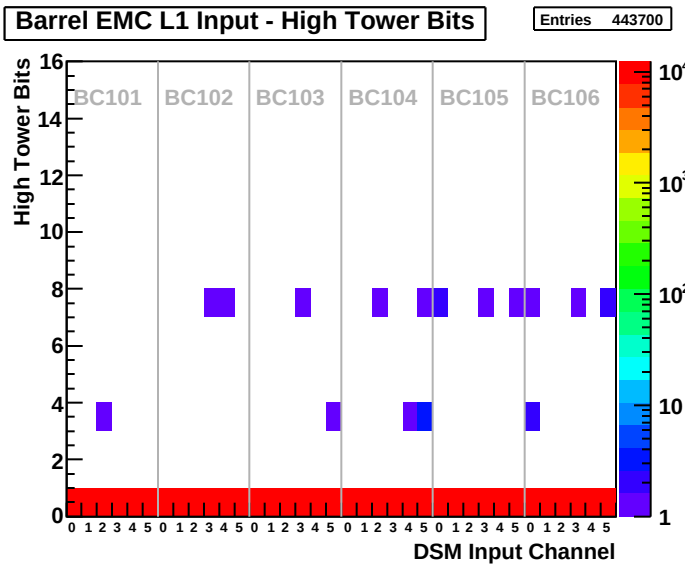

Hybrid Jet Patches
Entries 24650
JP ADC
JP ID

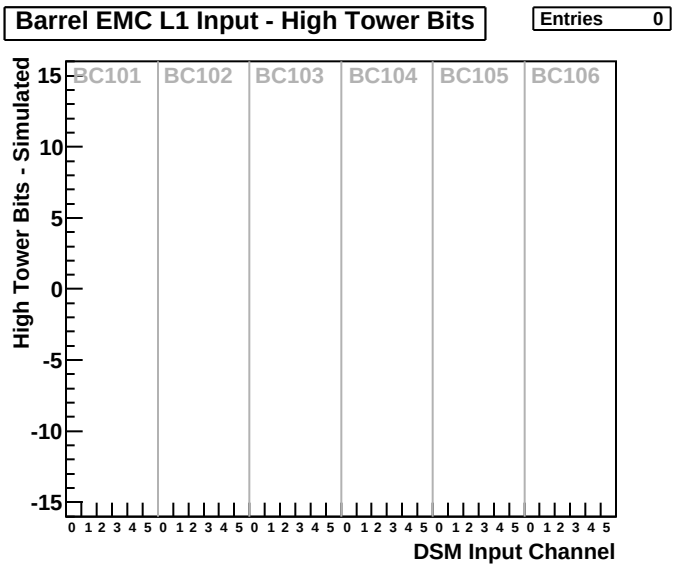

Barrel EMC L1 Input - Low Eta Sum
Entries 443700
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

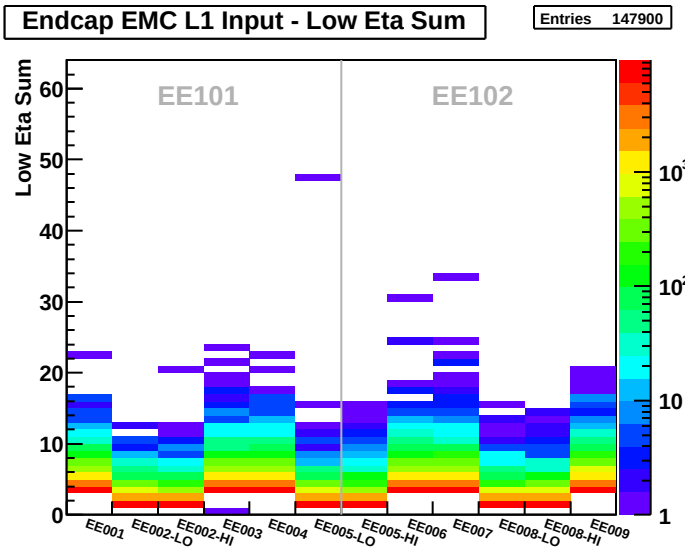

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

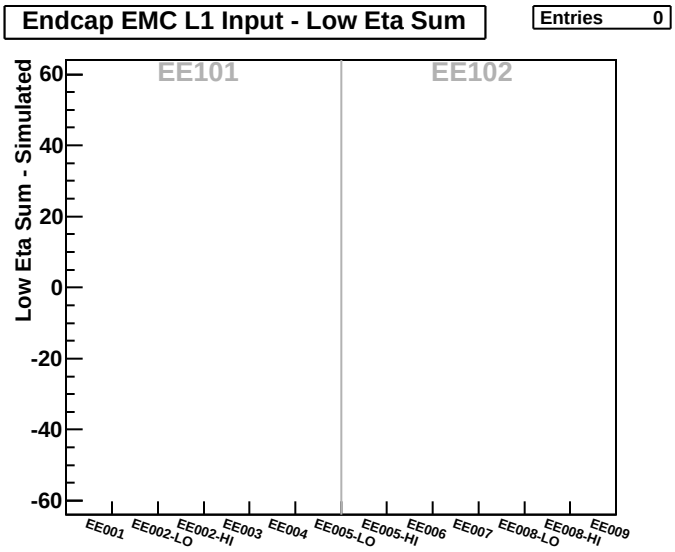

Barrel EMC L1 Input - High Eta Sum
Entries 443700
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

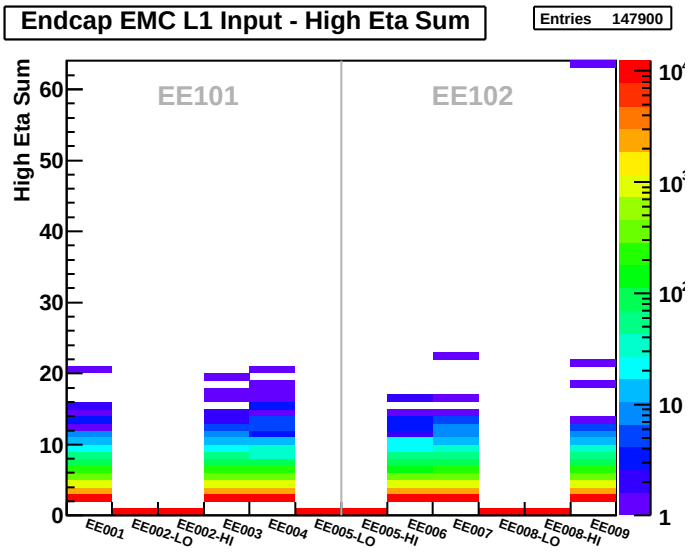

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

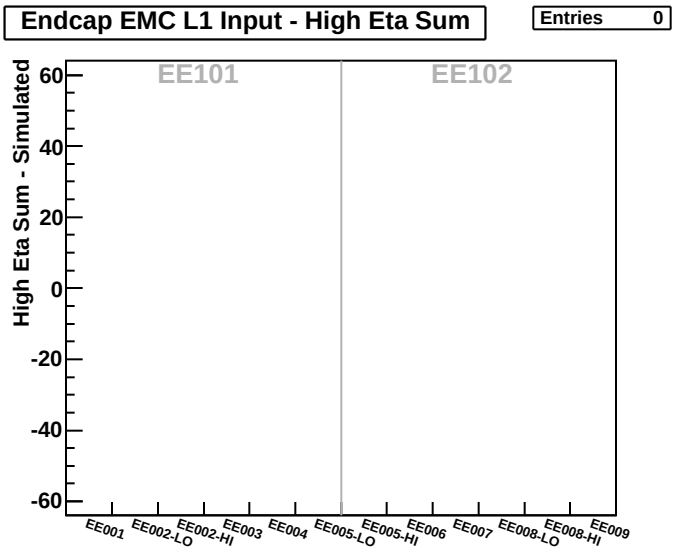

Barrel EMC L1 Input - High Tower Bits
Entries 443700
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

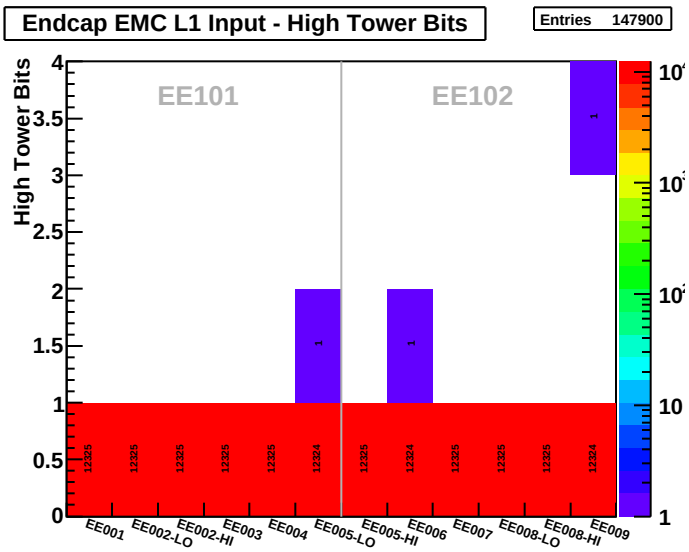

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

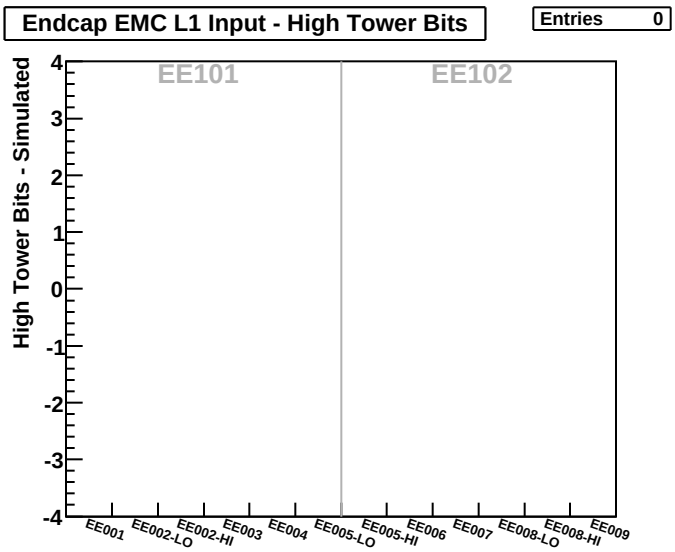

Endcap EMC L1 Input - Low Eta Sum
Entries 147900
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

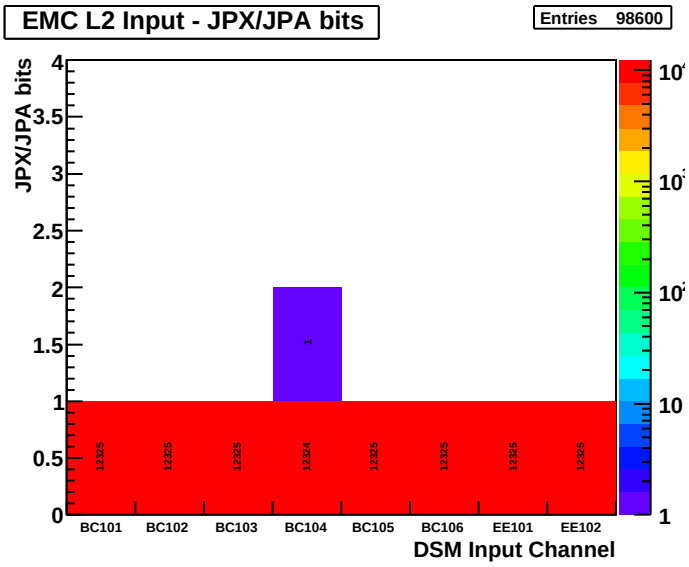

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

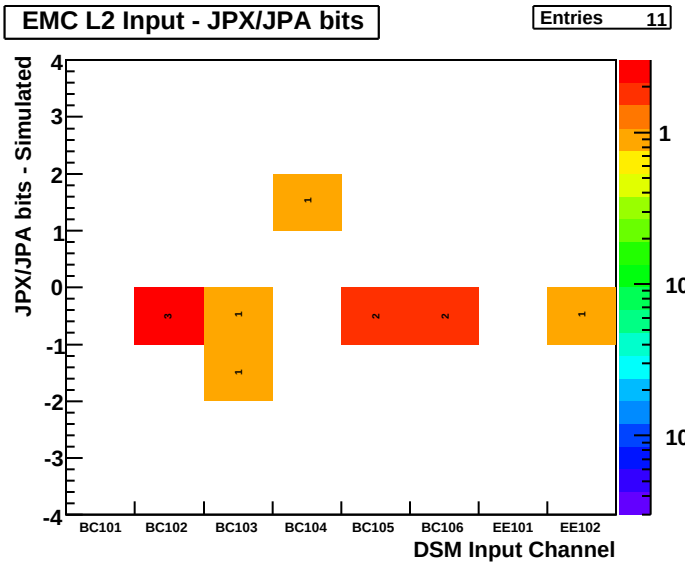

Endcap EMC L1 Input - High Eta Sum
Entries 147900
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

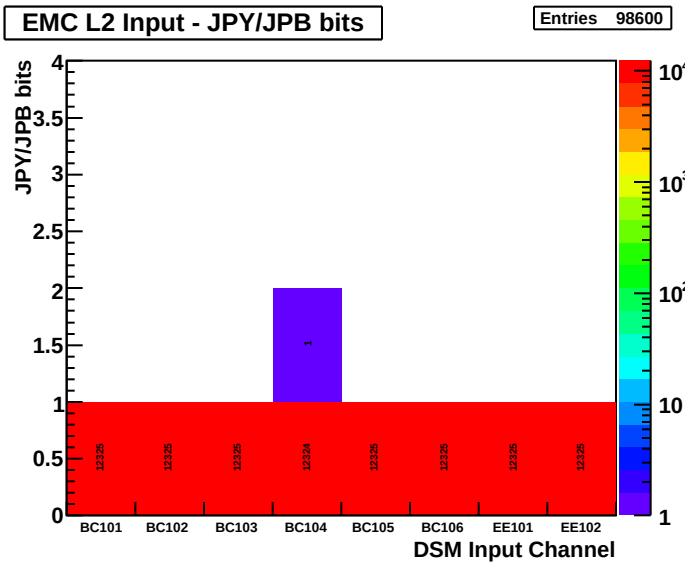

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

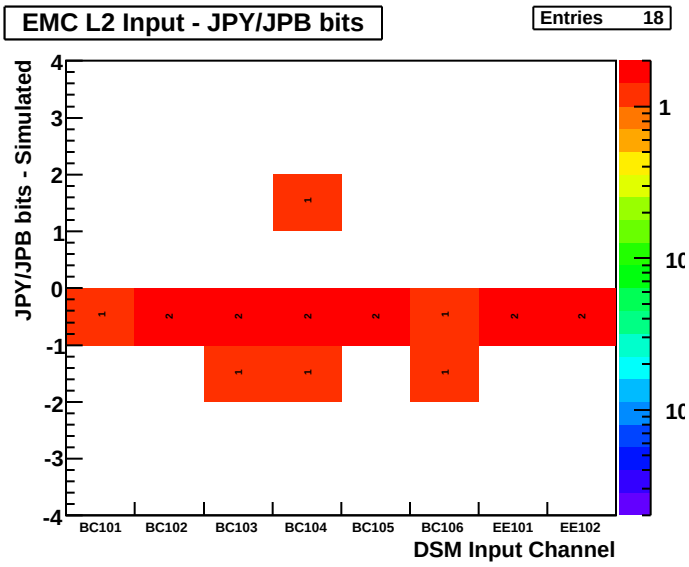

Endcap EMC L1 Input - High Tower Bits
Entries 147900
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

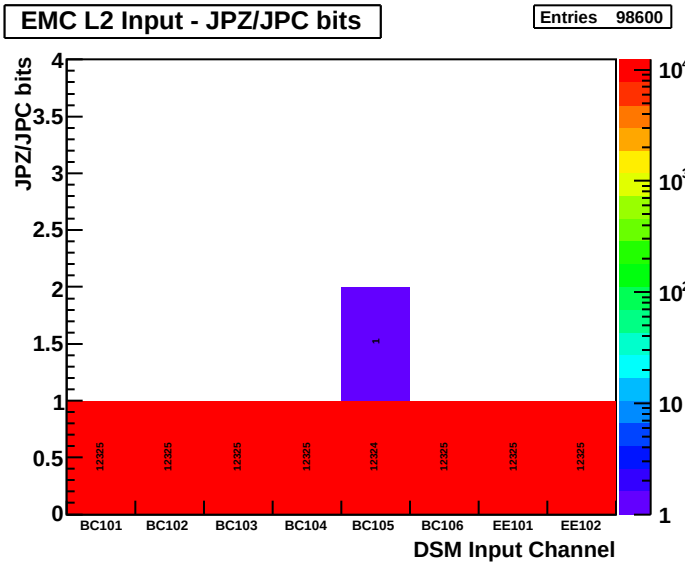

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

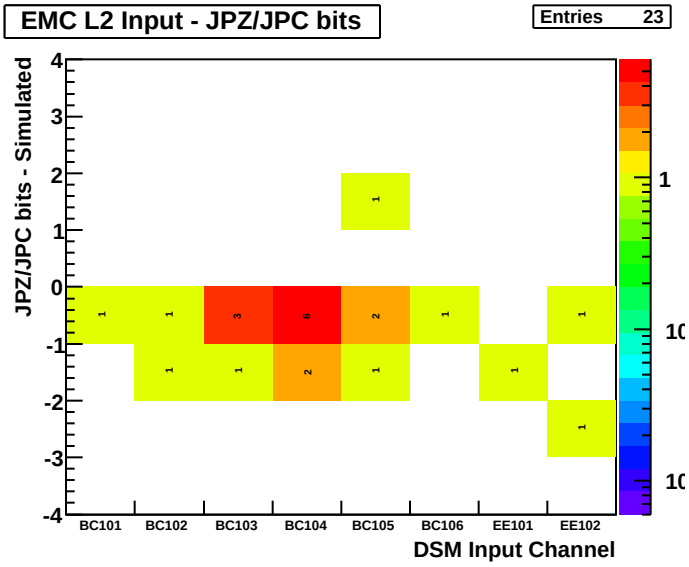

EMC L2 Input - JPX/JPA bits
Entries 98600
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

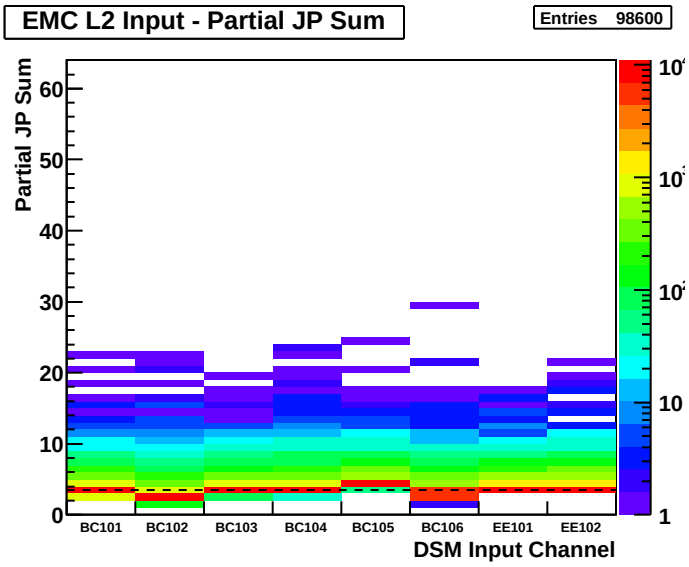

EMC L2 Input - JPX/JPA bits
Entries 11
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

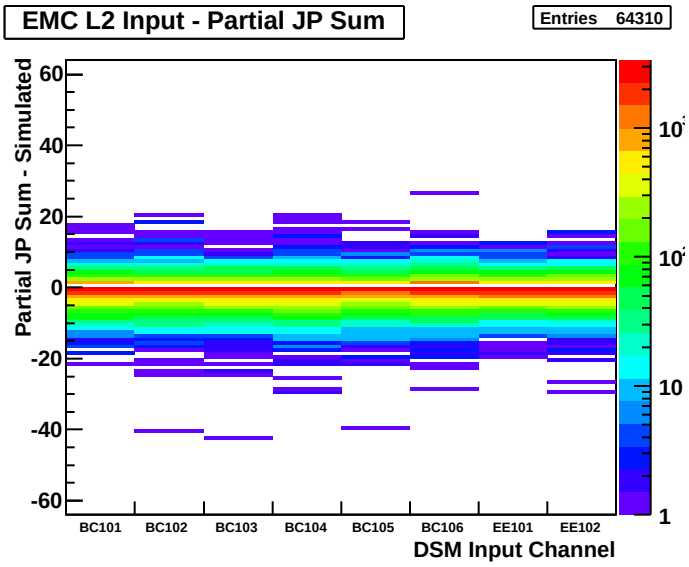

EMC L2 Input - JPY/JPB bits
Entries 98600
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

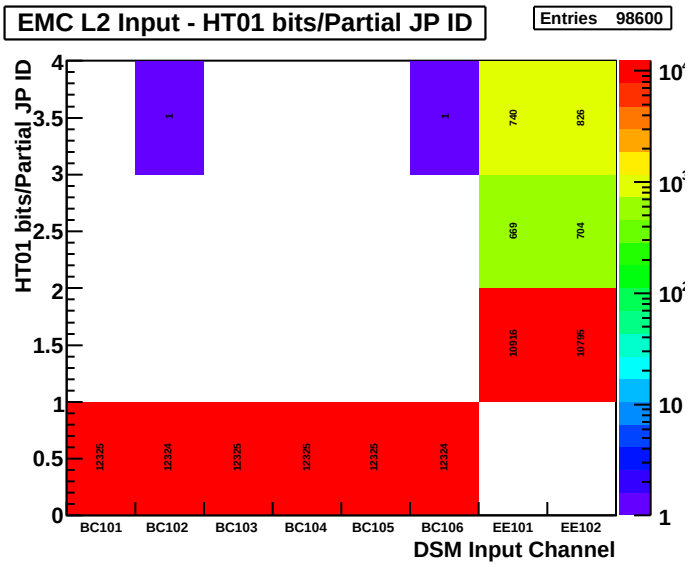

EMC L2 Input - JPY/JPB bits
Entries 18
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

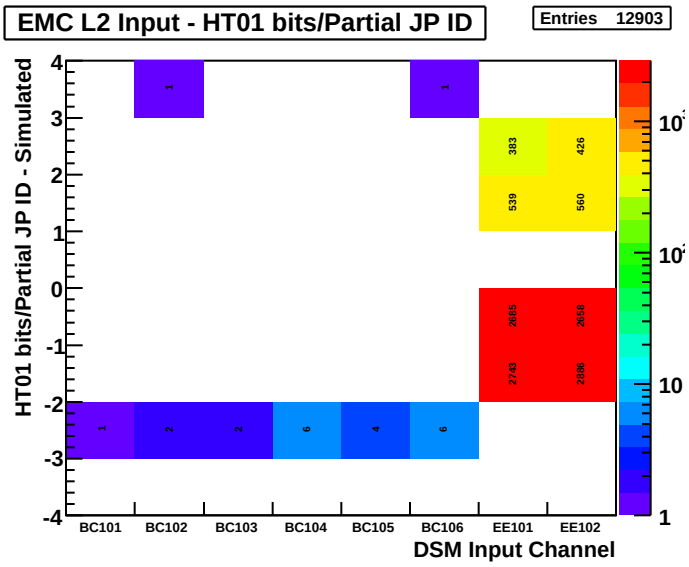

EMC L2 Input - JPZ/JPC bits
Entries 98600
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

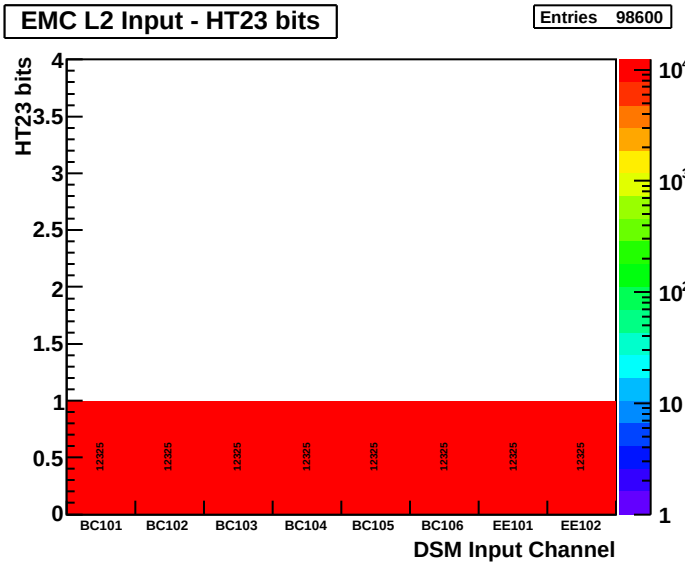

EMC L2 Input - JPZ/JPC bits
Entries 23
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

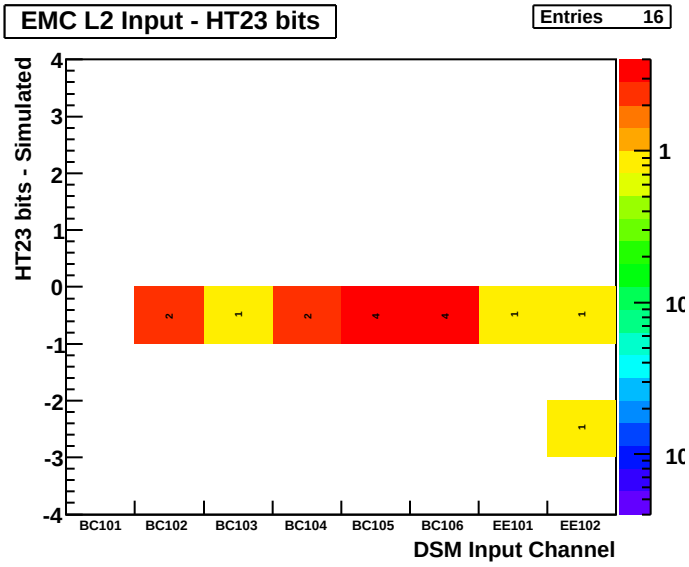

EMC L2 Input - Partial JP Sum
Entries 98600
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

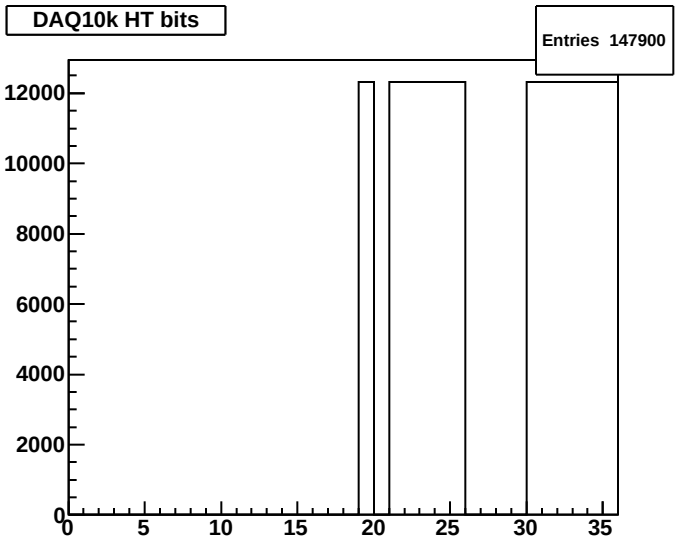

EMC L2 Input - Partial JP Sum
Entries 64310
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

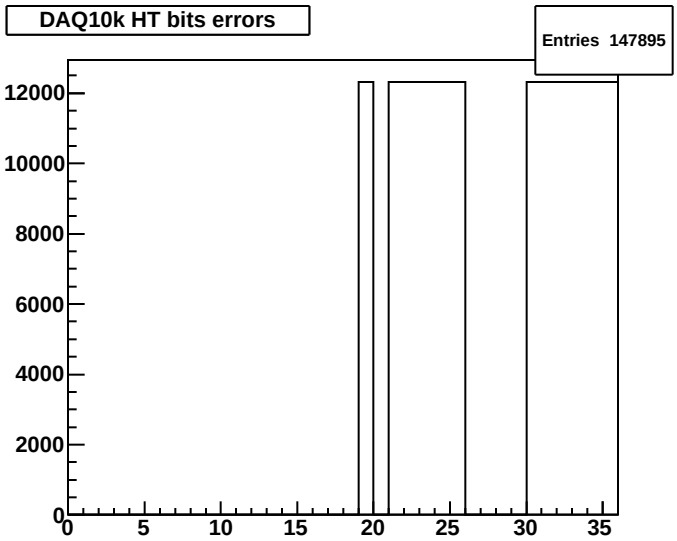

EMC L2 Input - HT01 bits/Partial JP ID
Entries 98600
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

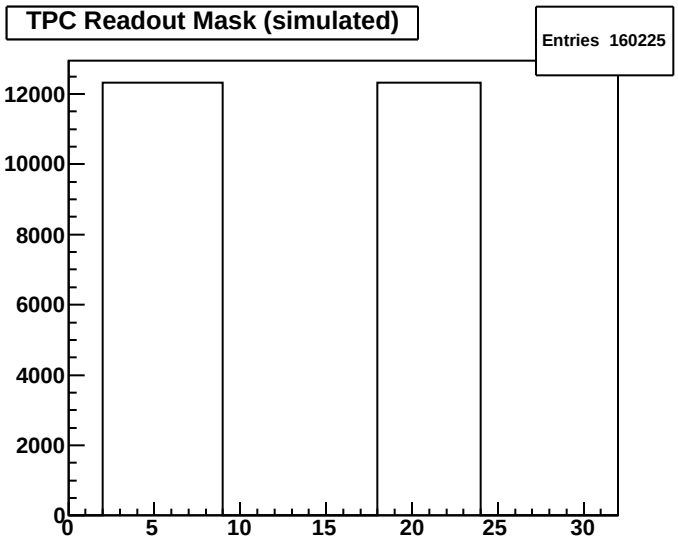

EMC L2 Input - HT01 bits/Partial JP ID
Entries 12903
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

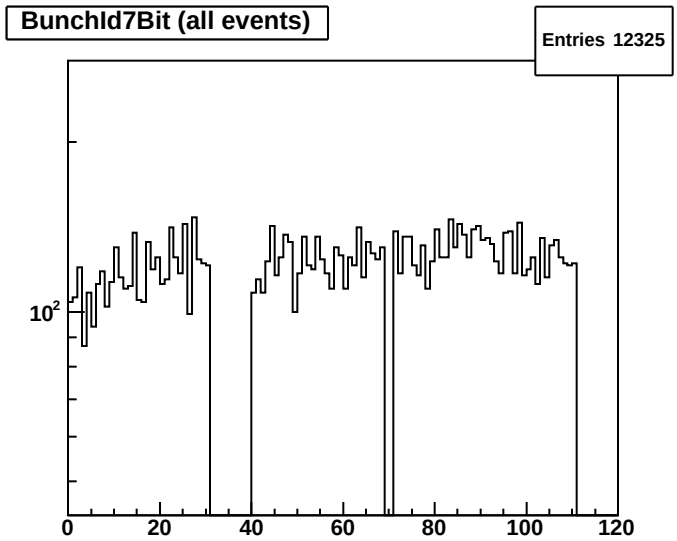

EMC L2 Input - HT23 bits
Entries 98600
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

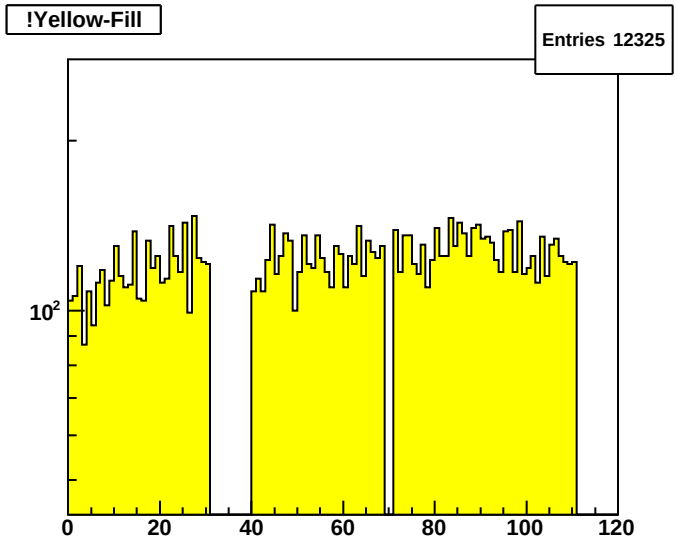

EMC L2 Input - HT23 bits
Entries 16
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

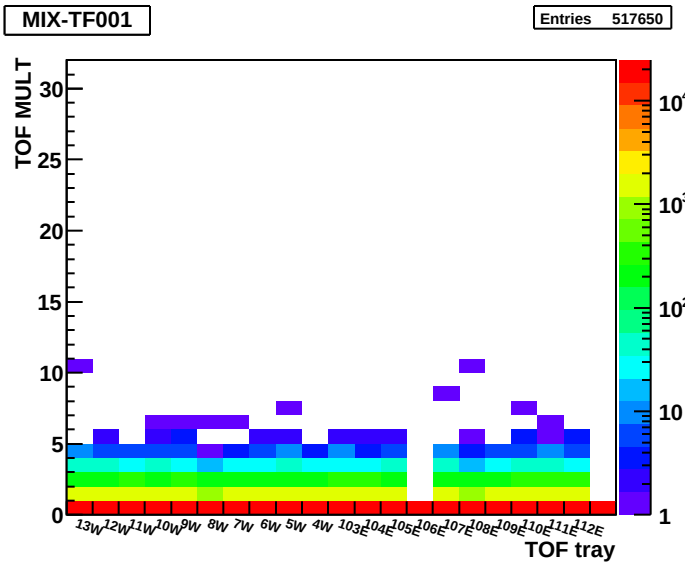

DAQ10k HT bits
Entries 147900
12000
10000
8000
6000
4000
2000
0
0 5 10 15 20 25 30 35

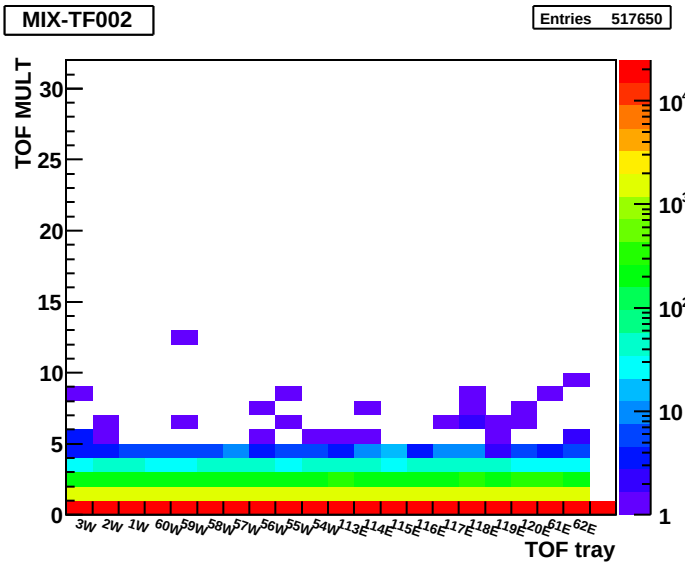

DAQ10k HT bits errors
Entries 147895
12000
10000
8000
6000
4000
2000
0
0 5 10 15 20 25 30 35

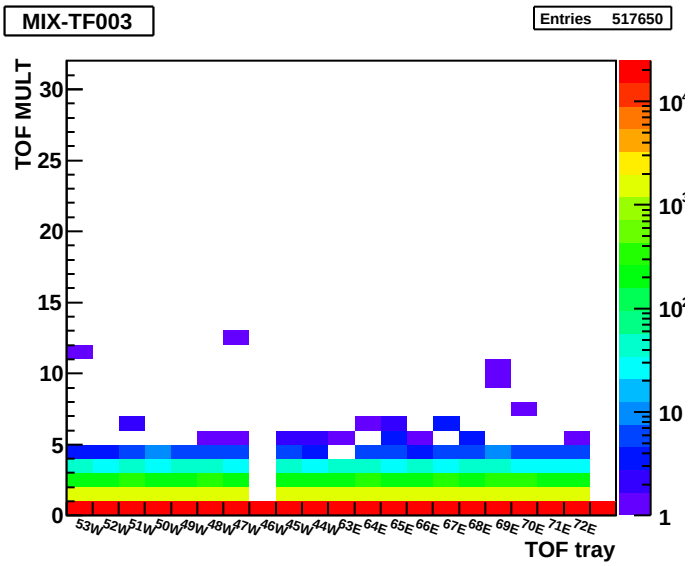

TPC Readout Mask (simulated)
Entries 160225
12000
10000
8000
6000
4000
2000
0
0 5 10 15 20 25 30

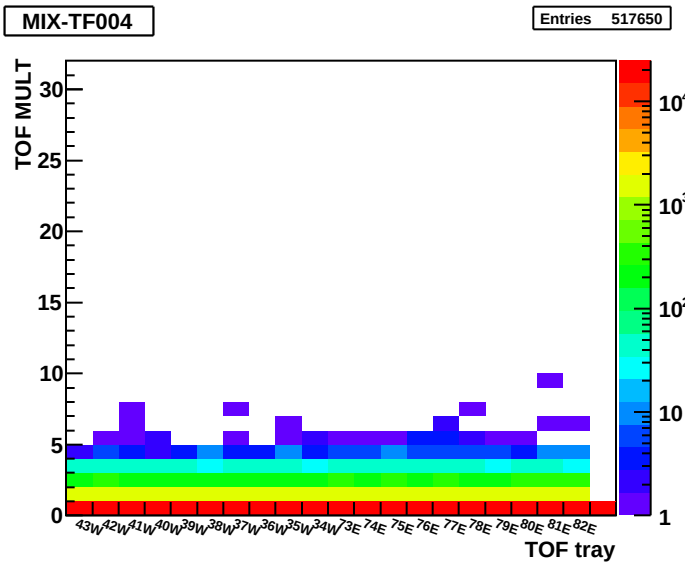

BunchId7Bit (all events)
Entries 12325
10^2
0 20 40 60 80 100 120

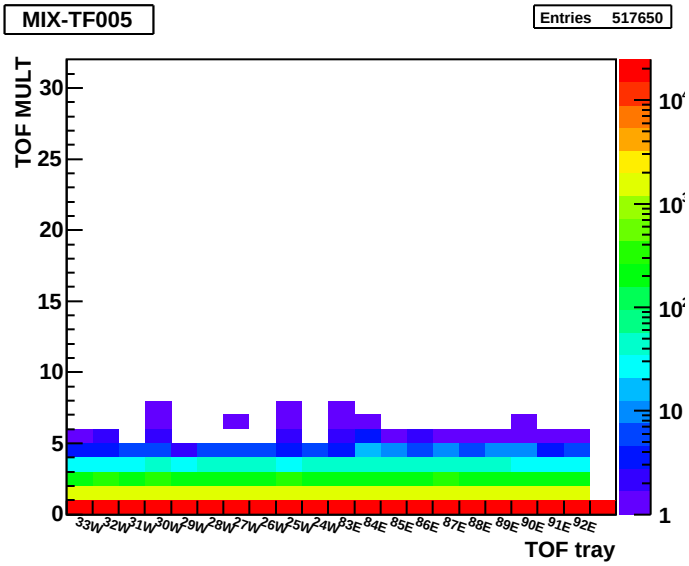

!Yellow-Fill
Entries 12325
10^2
0 20 40 60 80 100 120

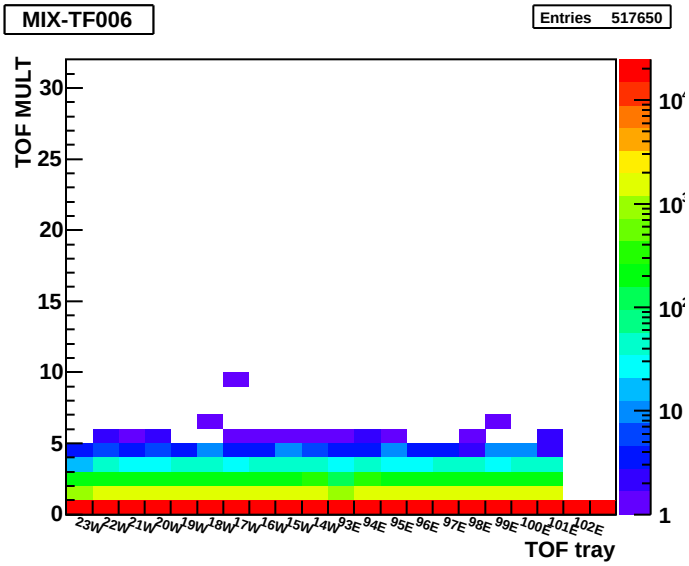

MIX-TF001
Entries 517650
TOF MULT
TOF tray

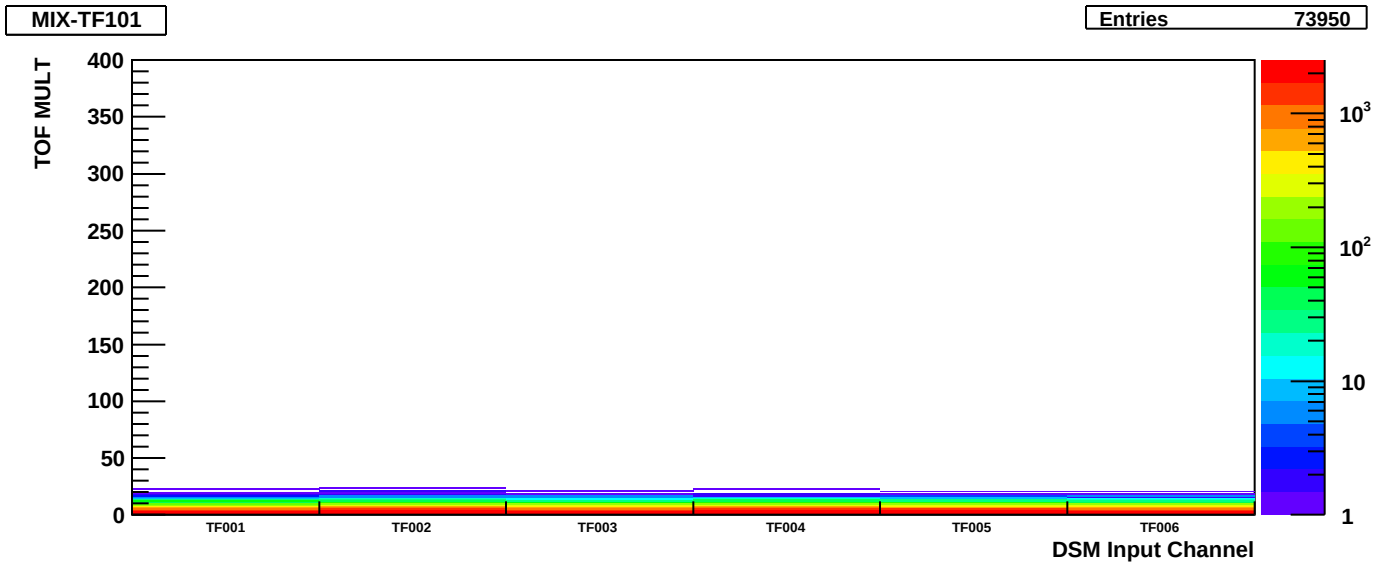

MIX-TF002
Entries 517650
TOF MULT
TOF tray

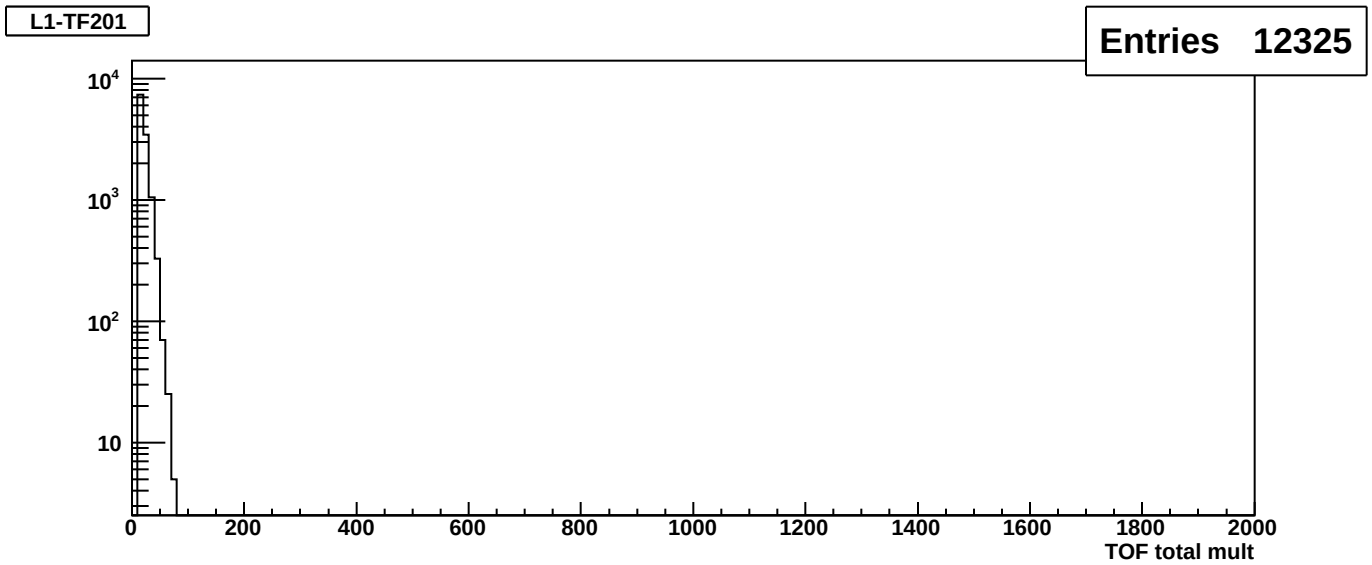

MIX-TF003
Entries 517650
TOF MULT
TOF tray

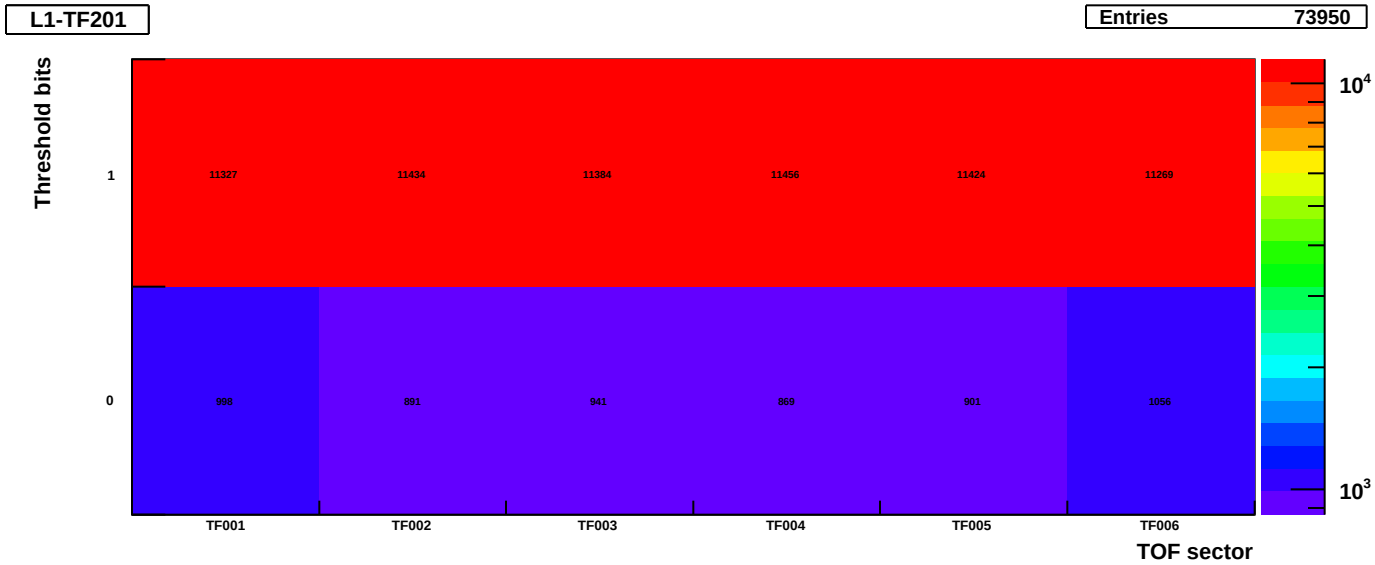

MIX-TF004
Entries 517650
TOF MULT
TOF tray

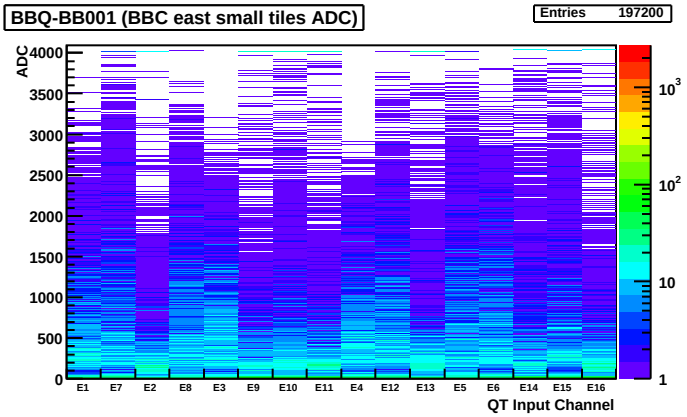

MIX-TF005
Entries 517650
TOF MULT
TOF tray

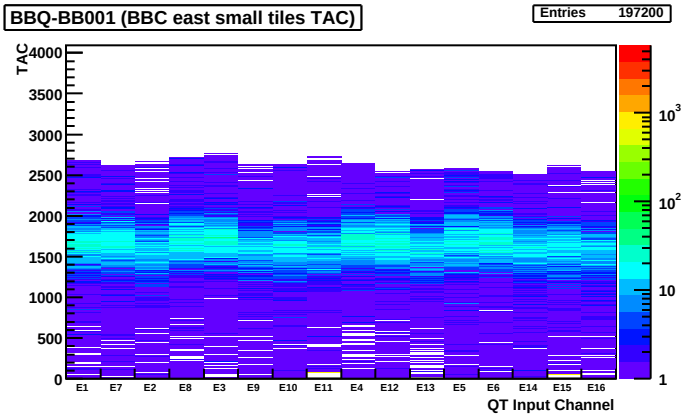

MIX-TF006
Entries 517650
TOF MULT
TOF tray

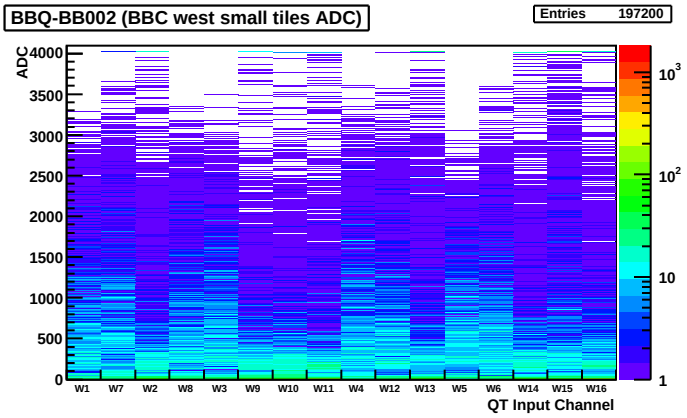

MIX-TF101
Entries 73950
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^3
10^2
10
1

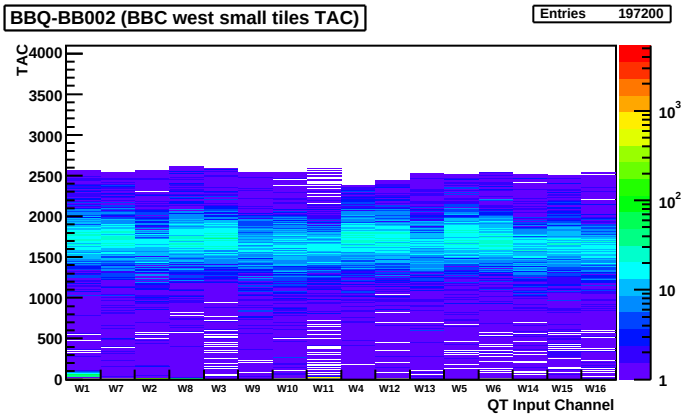

L1-TF201
Entries 12325
10^4
10^3
10^2
10
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

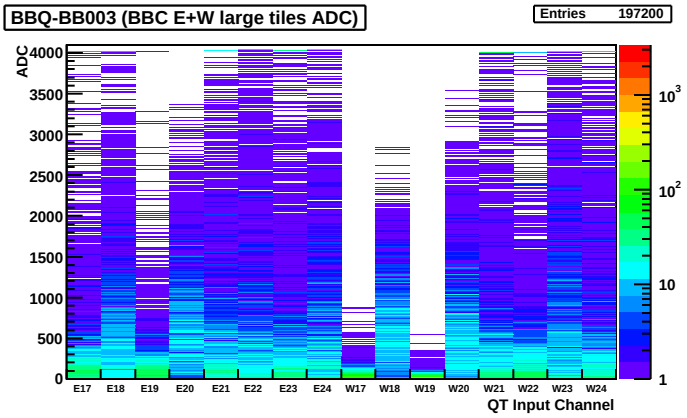

L1-TF201
Entries 73950
Threshold bits
1
0
11327
11434
11384
11456
11424
11269
998
891
941
869
901
1056
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^4
10^3

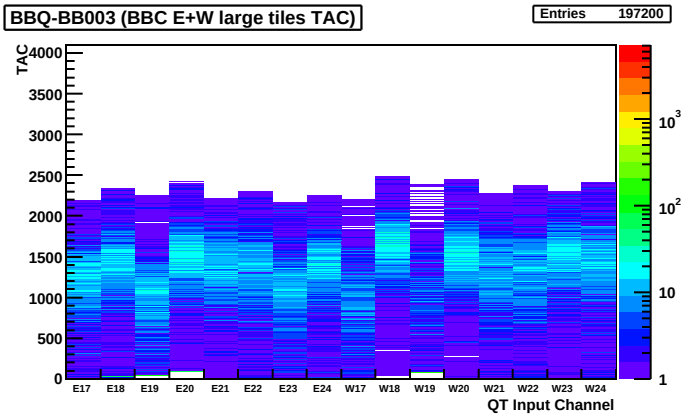

BBQ-BB001 (BBC east small tiles ADC)
Entries 197200
ADC
QT Input Channel

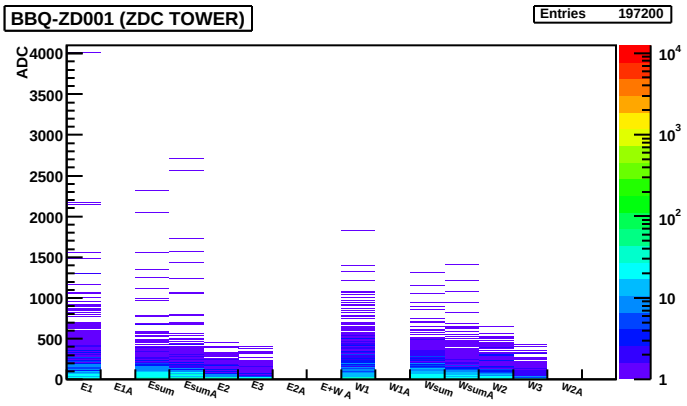

BBQ-BB001 (BBC east small tiles TAC)
Entries 197200
TAC
QT Input Channel

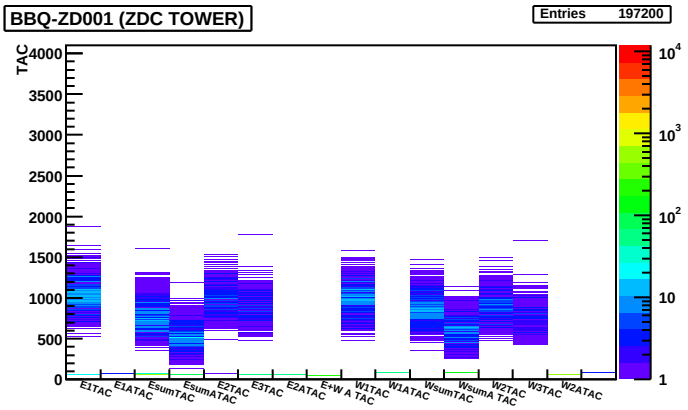

BBQ-BB002 (BBC west small tiles ADC)
Entries 197200
ADC
QT Input Channel

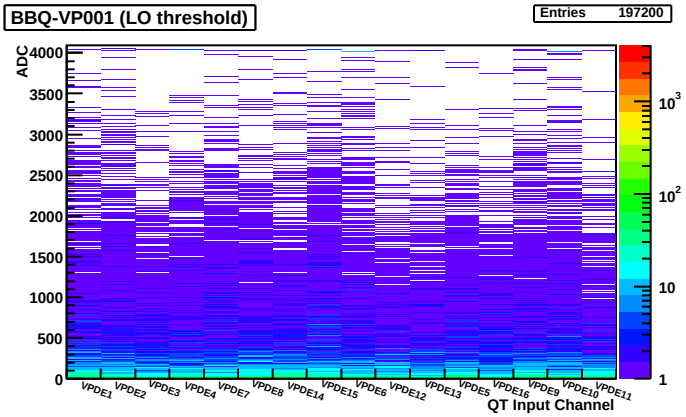

BBQ-BB002 (BBC west small tiles TAC)
Entries 197200
TAC
QT Input Channel

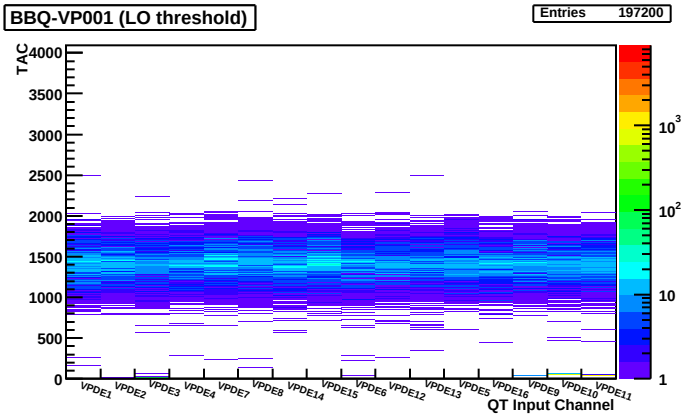

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 197200
ADC
QT Input Channel

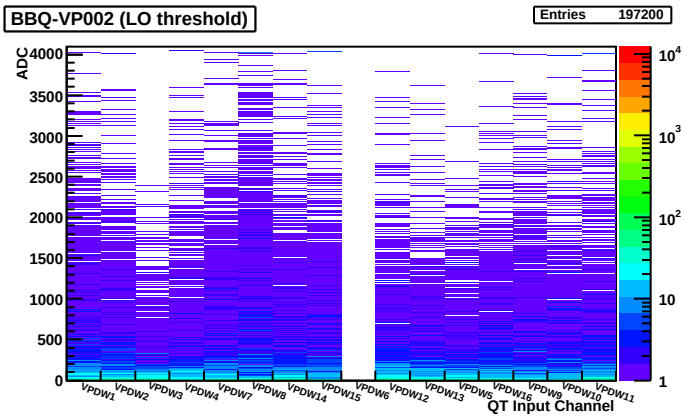

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 197200
TAC
QT Input Channel

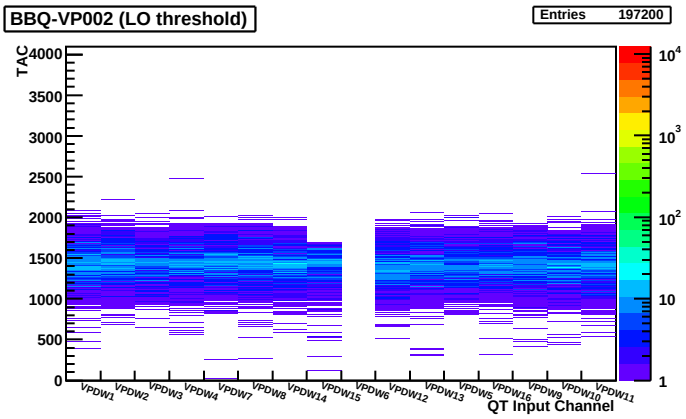

BBQ-ZD001 (ZDC TOWER)
Entries 197200
ADC

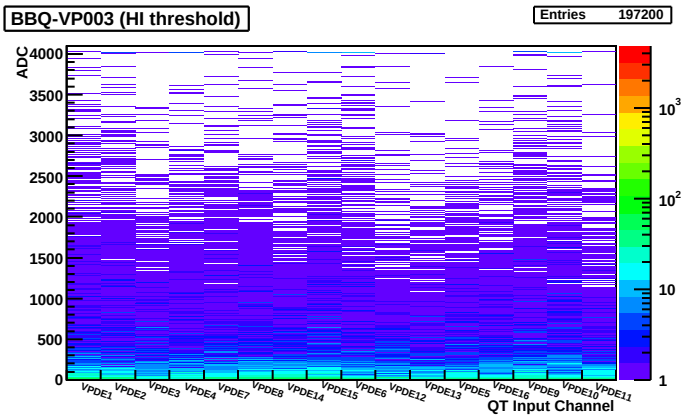

BBQ-ZD001 (ZDC TOWER)
Entries 197200
TAC

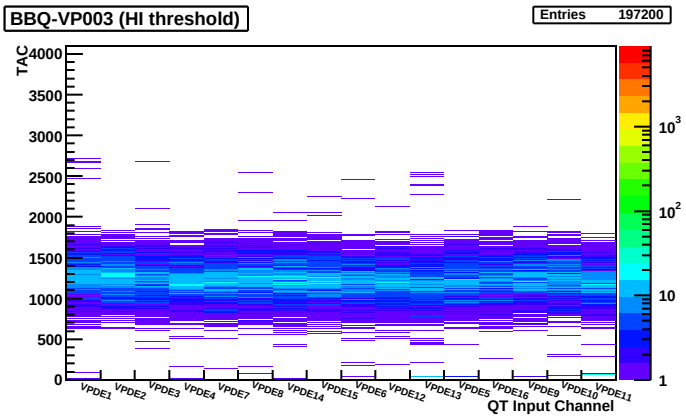

BBQ-VP001 (LO threshold)
Entries 197200
ADC
QT Input Channel

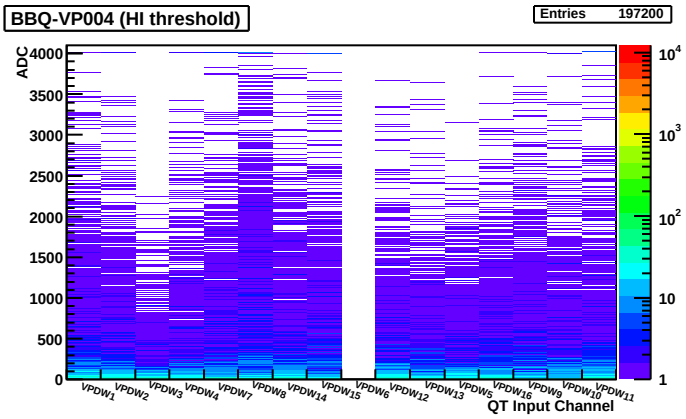

BBQ-VP001 (LO threshold)
Entries 197200
TAC
QT Input Channel

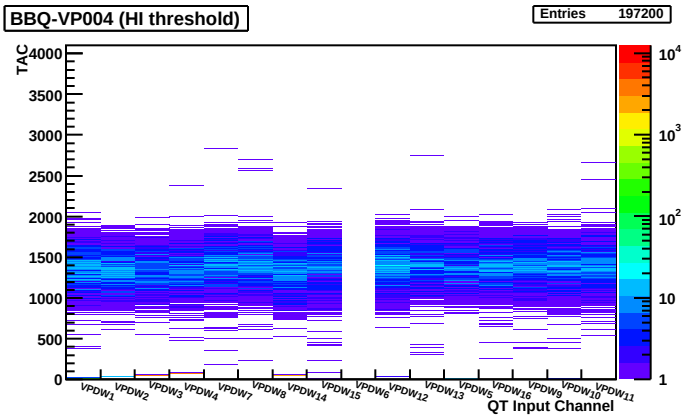

BBQ-VP002 (LO threshold)
Entries 197200
ADC
QT Input Channel

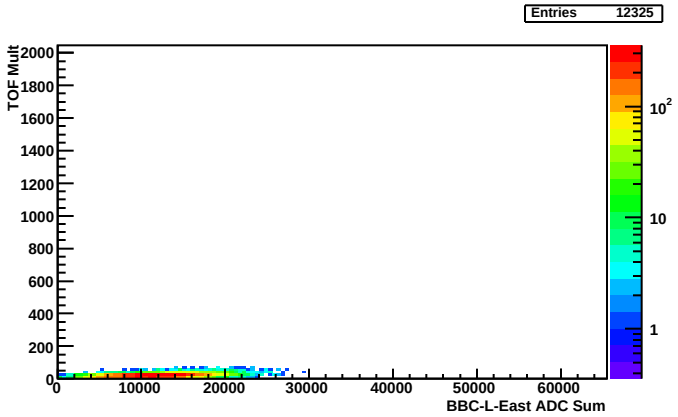

BBQ-VP002 (LO threshold)
Entries 197200
TAC
QT Input Channel

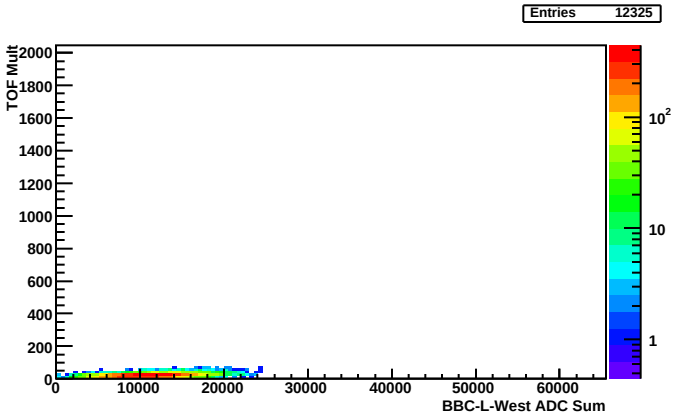

BBQ-VP003 (HI threshold)
Entries 197200
ADC
QT Input Channel

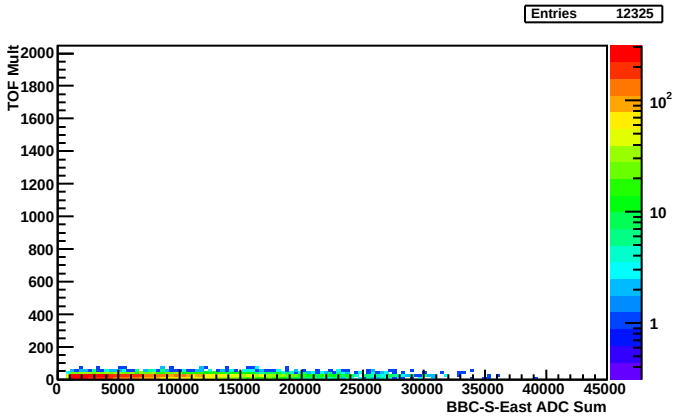

BBQ-VP003 (HI threshold)
Entries 197200
TAC
QT Input Channel

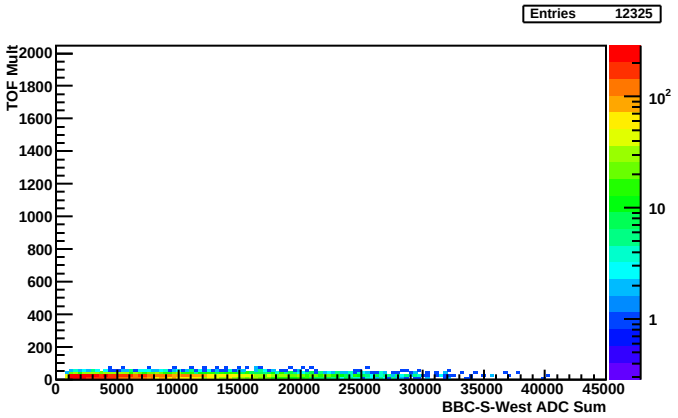

BBQ-VP004 (HI threshold)
Entries 197200
ADC
QT Input Channel

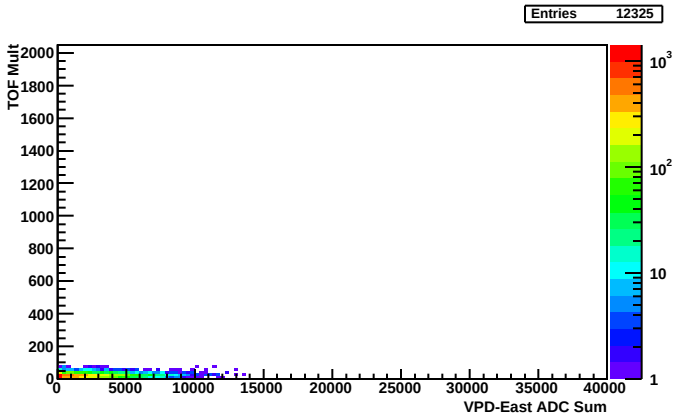

BBQ-VP004 (HI threshold)
Entries 197200
TAC
QT Input Channel

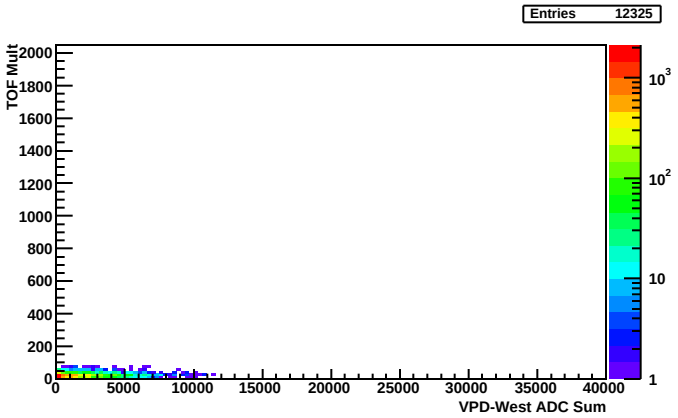

Entries 12325
TOF Mult
BBC-L-East ADC Sum

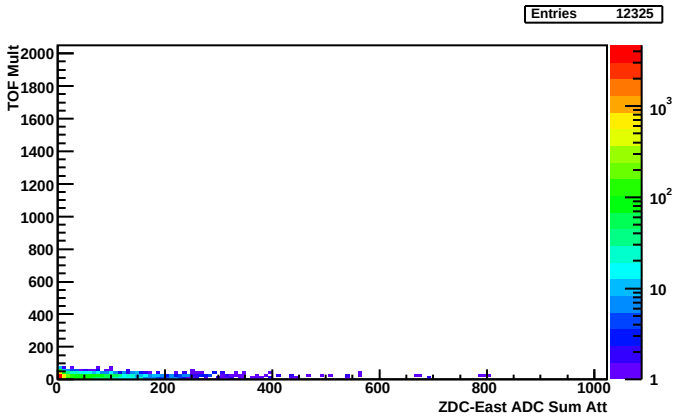

Entries 12325
TOF Mult
BBC-L-West ADC Sum

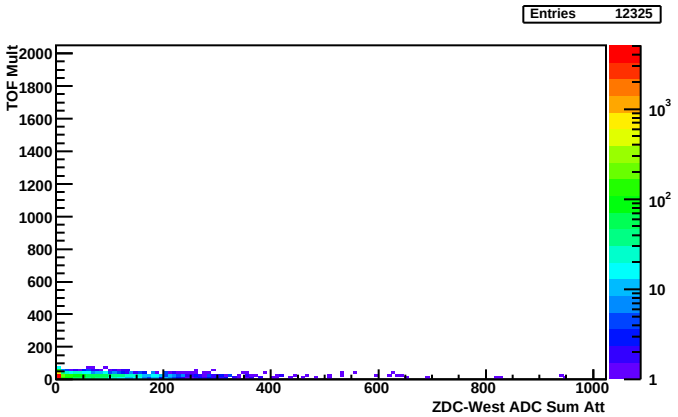

Entries 12325
TOF Mult
BBC-S-East ADC Sum

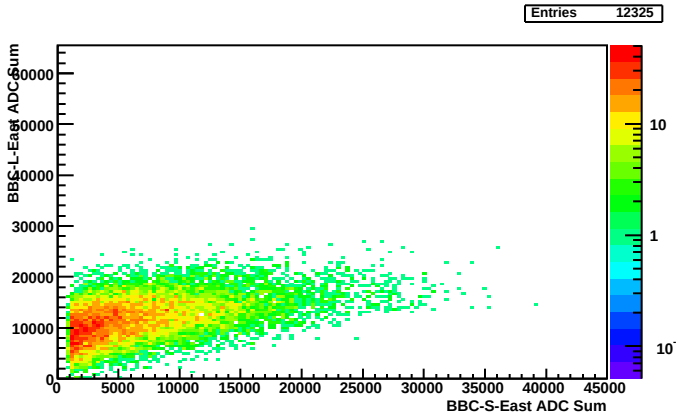

Entries 12325
TOF Mult
BBC-S-West ADC Sum

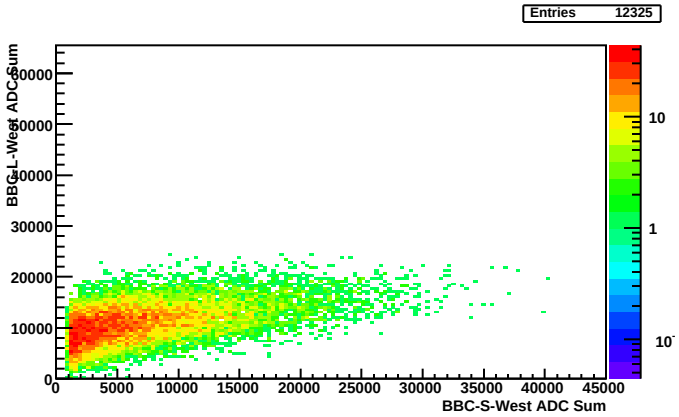

Entries 12325
TOF Mult
VPD-East ADC Sum

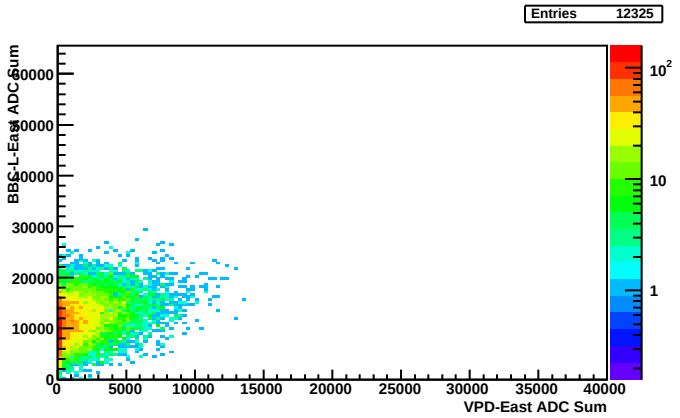

Entries 12325
TOF Mult
VPD-West ADC Sum

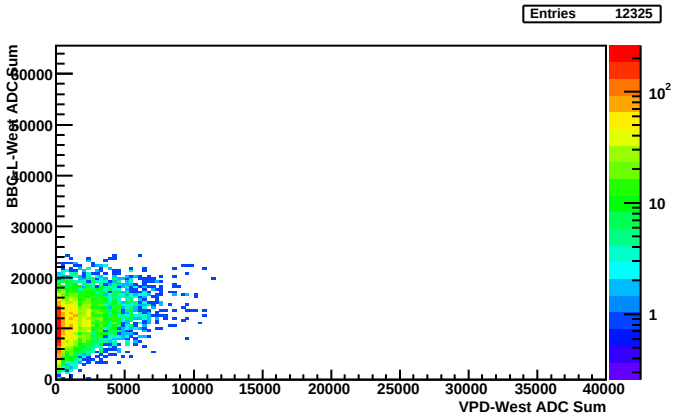

Entries 12325
TOF Mult
ZDC-East ADC Sum Att

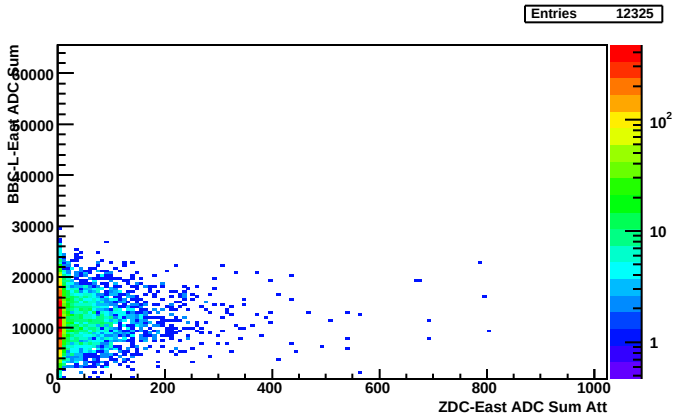

Entries 12325
TOF Mult
ZDC-West ADC Sum Att

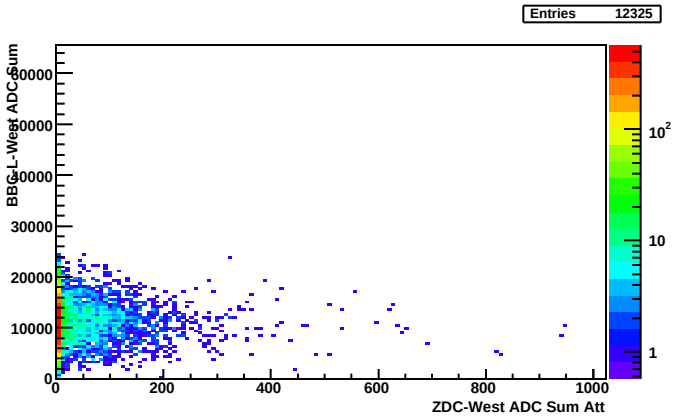

Entries 12325
BBC-L-East ADC Sum
BBC-S-East ADC Sum

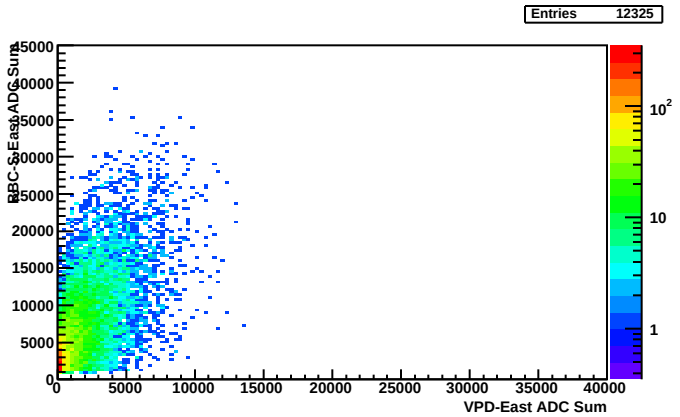

Entries 12325
BBC-L-West ADC Sum
BBC-S-West ADC Sum

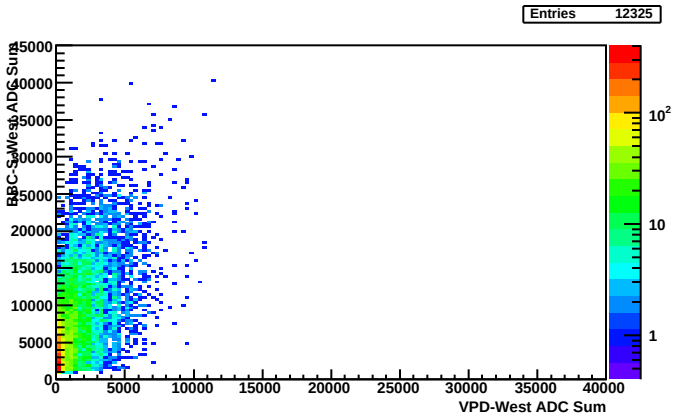

Entries 12325
BBC-L-East ADC Sum
VPD-East ADC Sum

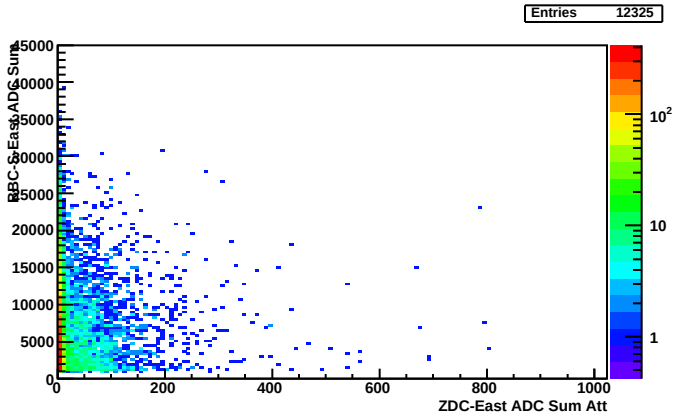

Entries 12325
BBC-L-West ADC Sum
VPD-West ADC Sum

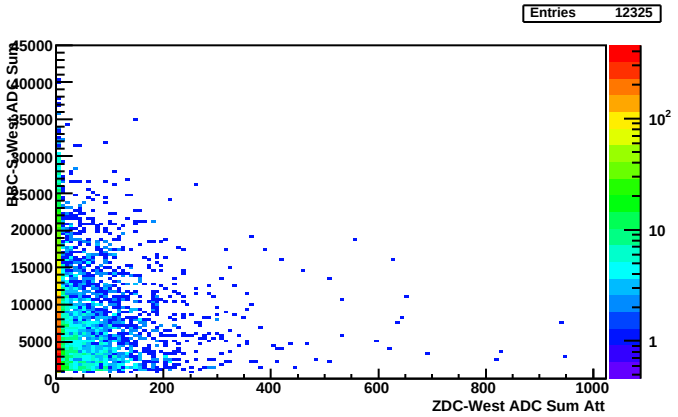

Entries 12325
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

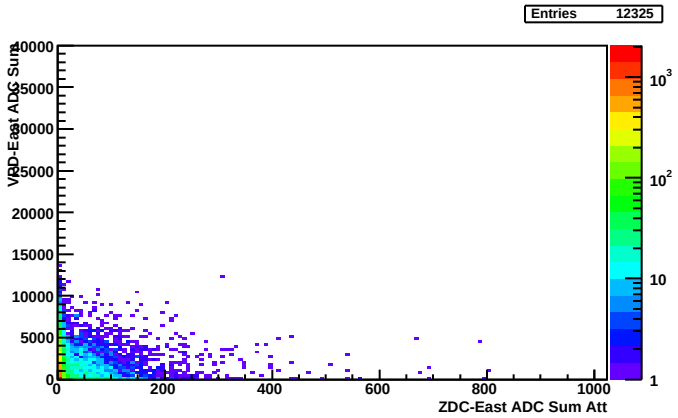

Entries 12325
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

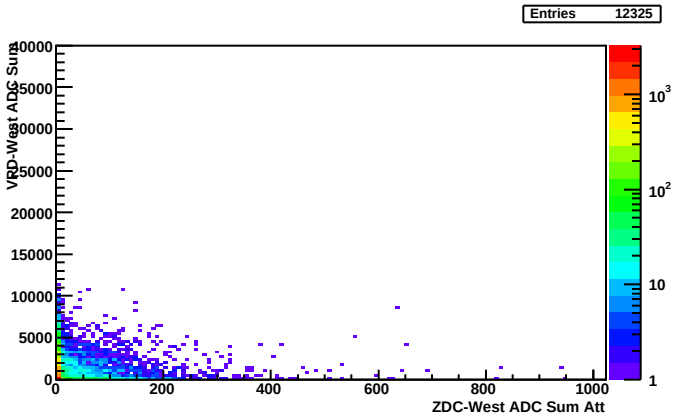

Entries 12325
BBC-S-East ADC Sum
VPD-East ADC Sum


Entries 12325
BBC-S-West ADC Sum
VPD-West ADC Sum


Entries 12325
BBC-S-East ADC Sum
ZDC-East ADC Sum Att


Entries 12325
BBC-S-West ADC Sum
ZDC-West ADC Sum Att


Entries 12325
VPD-East ADC Sum
ZDC-East ADC Sum Att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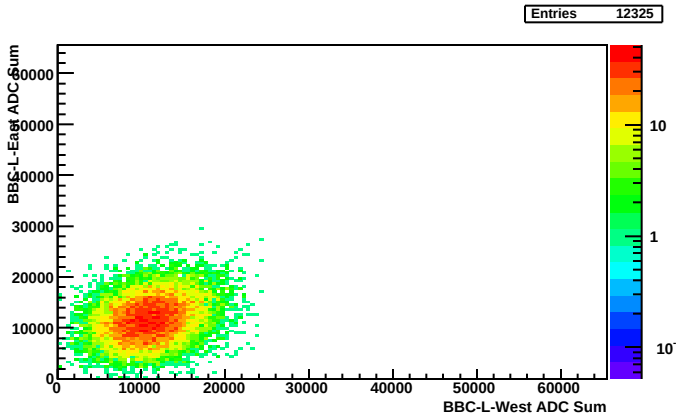
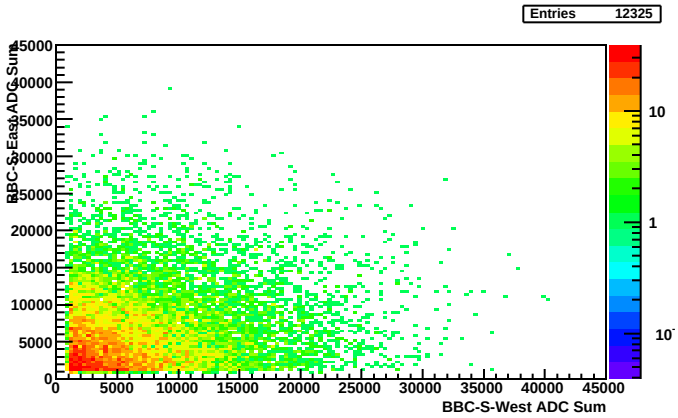
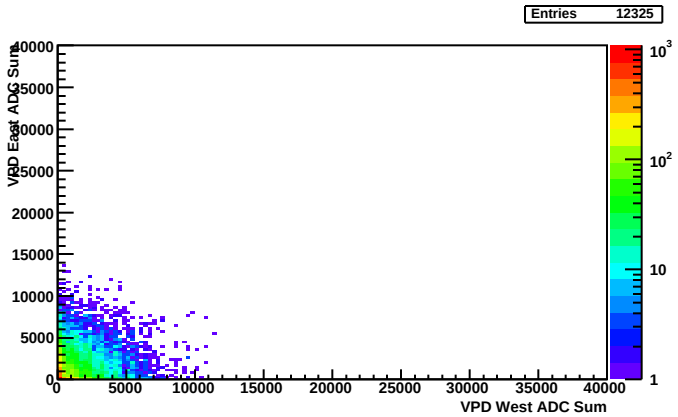
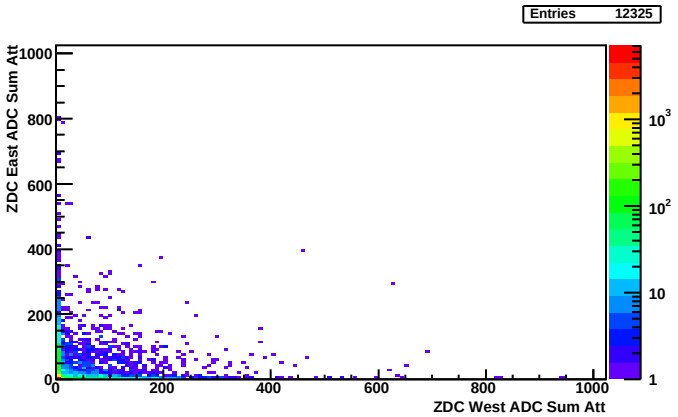
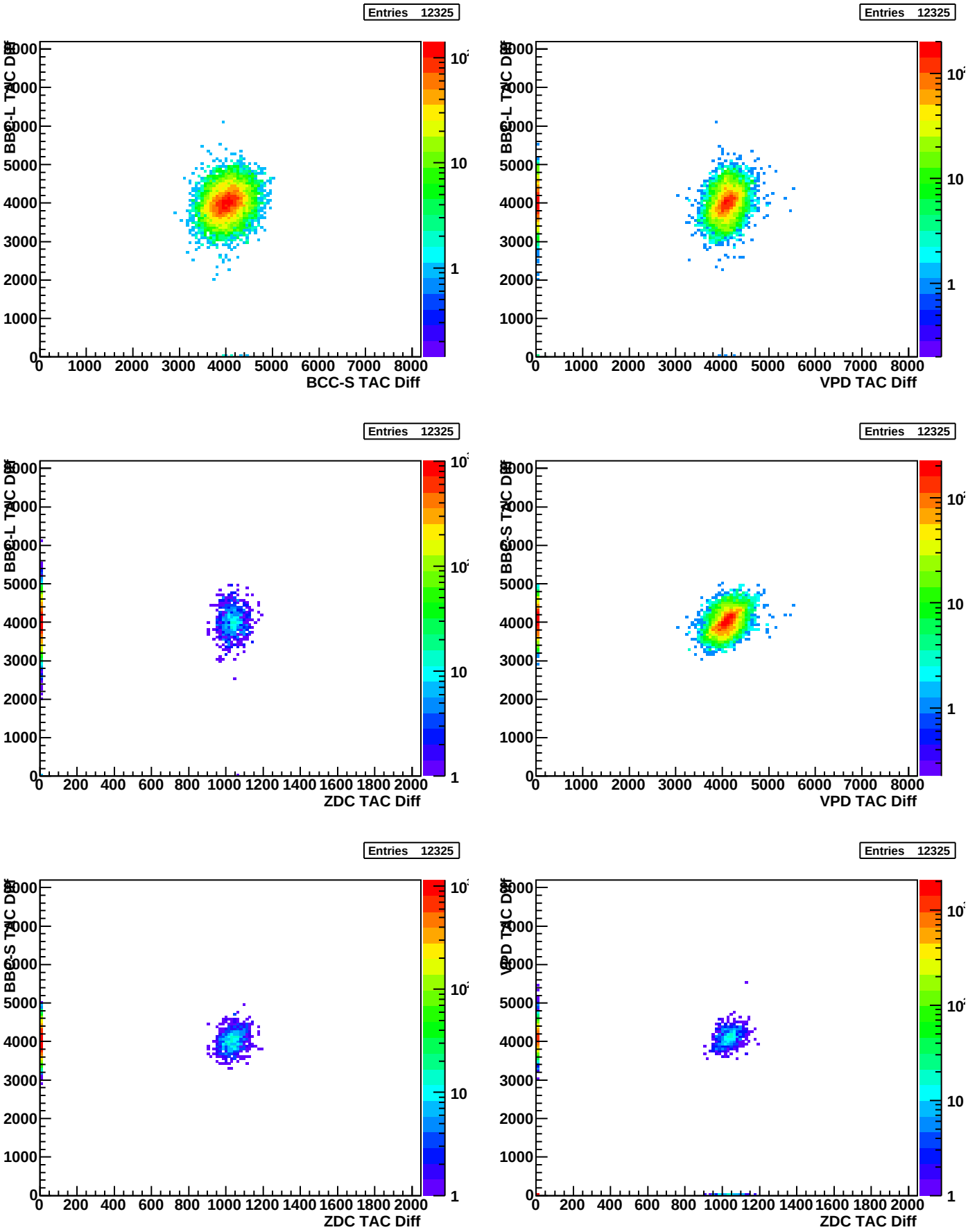
VPD-West ADC Sum
ZDC-West ADC Sum Att


Entries 12325
BBC-L-East ADC Sum
BBC-L-West ADC Sum


Entries 12325
BBC-S-East ADC Sum
BBC-S-West ADC Sum


Entries 12325
VPD East ADC Sum
VPD West ADC Sum


Entries 12325
ZDC East ADC Sum Att
ZDC West ADC Sum Att


Entries 12325
BBC-L TAC Diff
BCC-S TAC Diff
Entries 12325
BBC-L TAC Diff
VPD TAC Diff
Entries 12325
BBC-L TAC Diff
ZDC TAC Diff
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BBC-S TAC Diff
VPD TAC Diff
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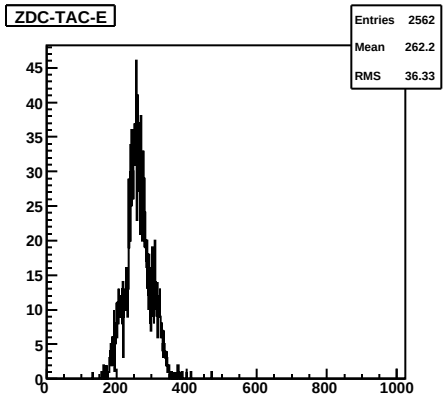
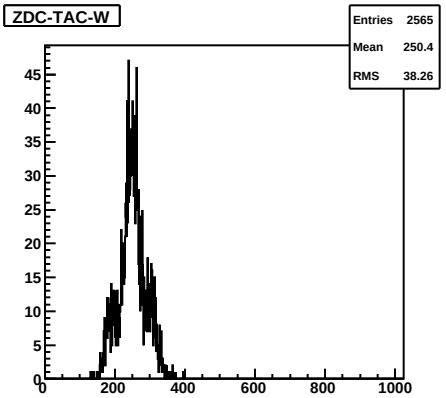
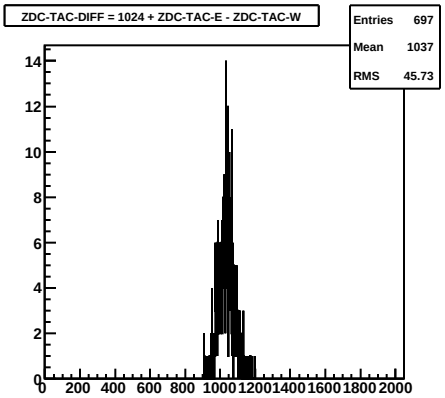
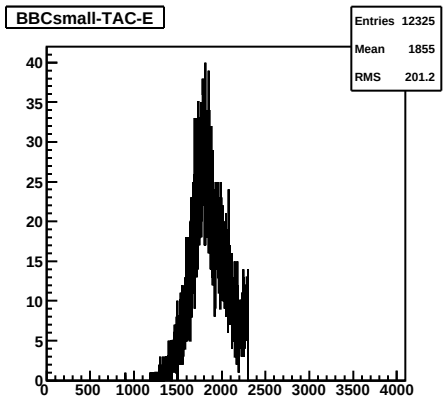
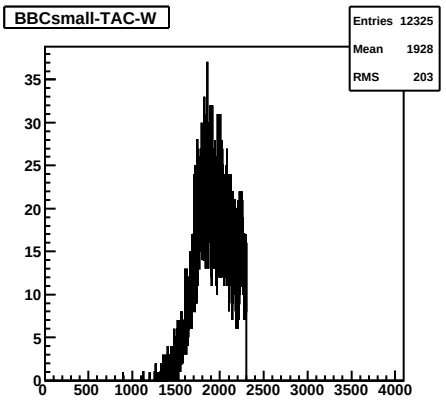
BBC-S TAC Diff
ZDC TAC Diff
Entries 12325
VPD TAC Diff
ZDC TAC Diff

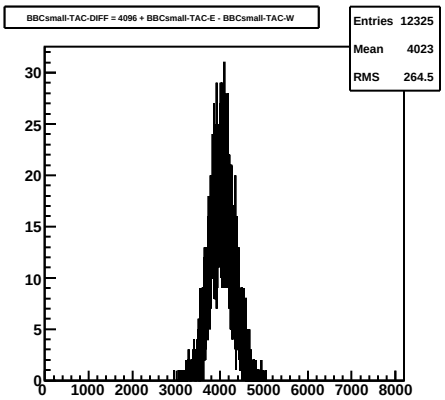

ZDC-TAC-E
Entries 2562
Mean 262.2
RMS 36.33

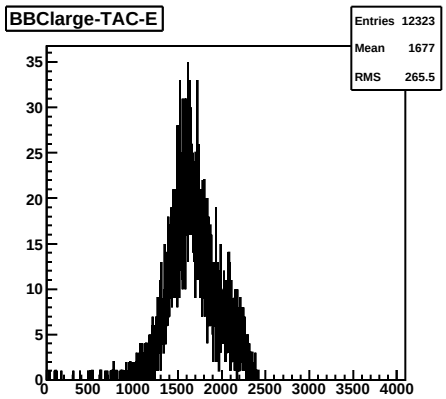

ZDC-TAC-W
Entries 2565
Mean 250.4
RMS 38.26

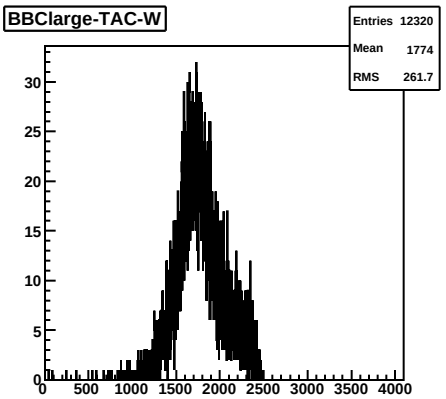

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 697
Mean 1037
RMS 45.73

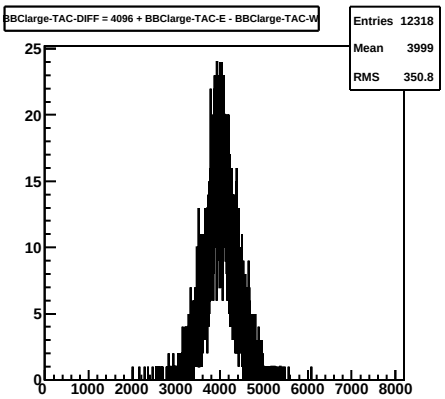

BBCsmall-TAC-E
Entries 12325
Mean 1855
RMS 201.2

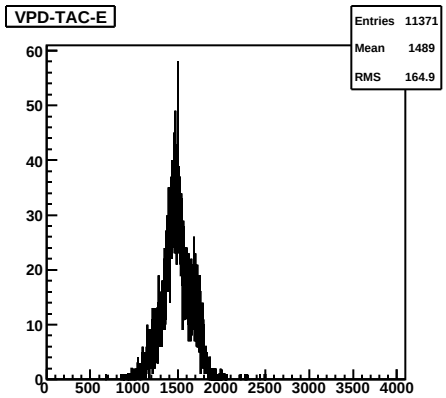

BBCsmall-TAC-W
Entries 12325
Mean 1928
RMS 203

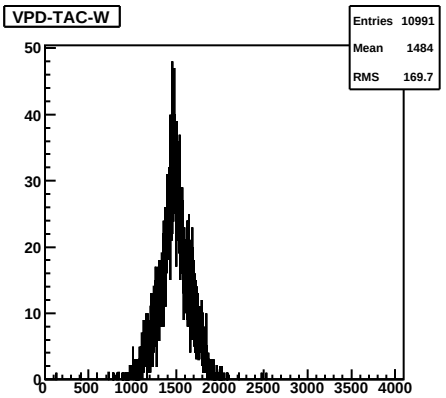

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 12325
Mean 4023
RMS 264.5

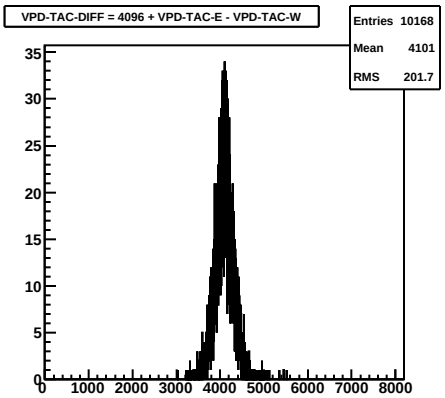

BBClarge-TAC-E
Entries 12323
Mean 1677
RMS 265.5

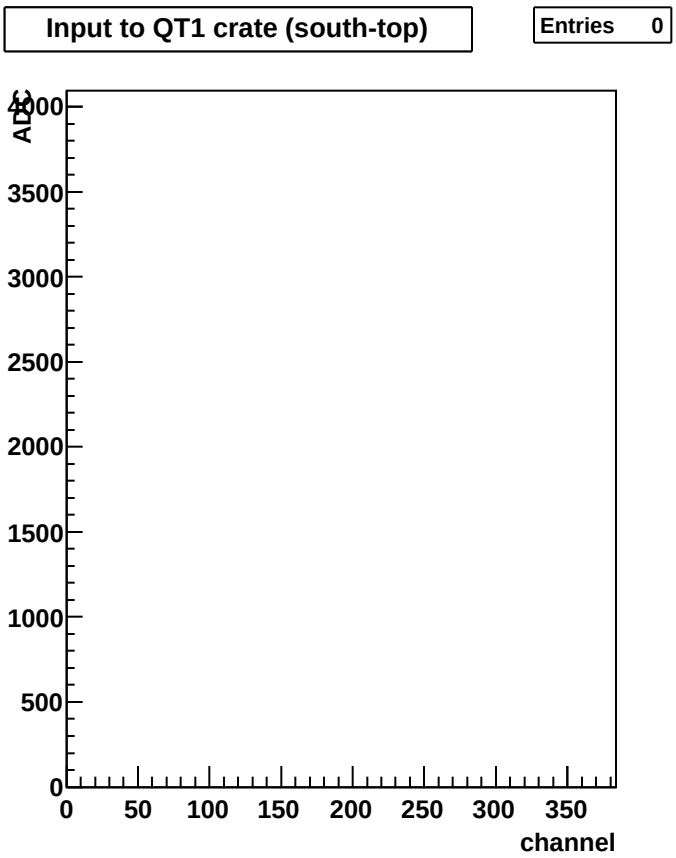

BBClarge-TAC-W
Entries 12320
Mean 1774
RMS 261.7

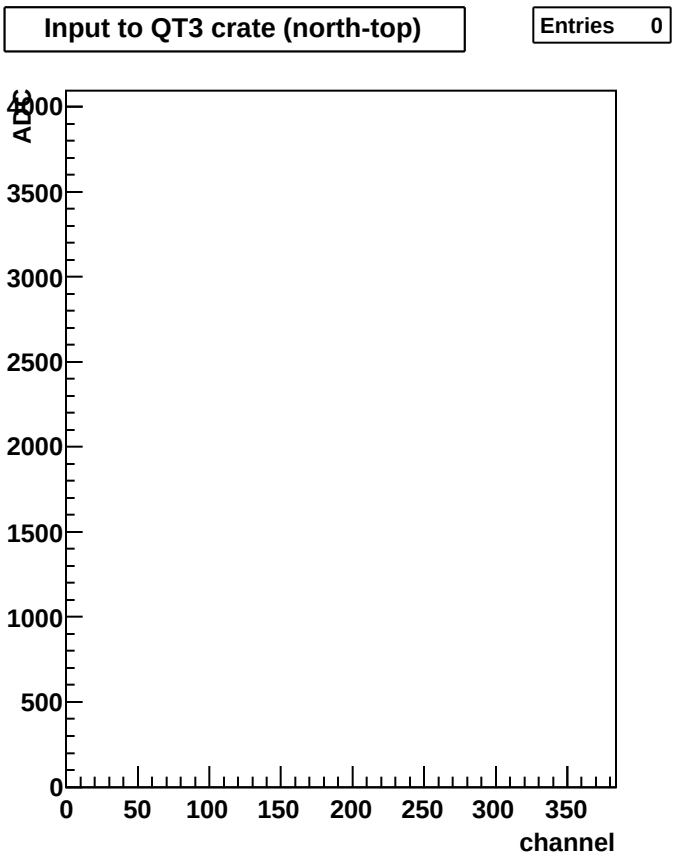

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 12318
Mean 3999
RMS 350.8

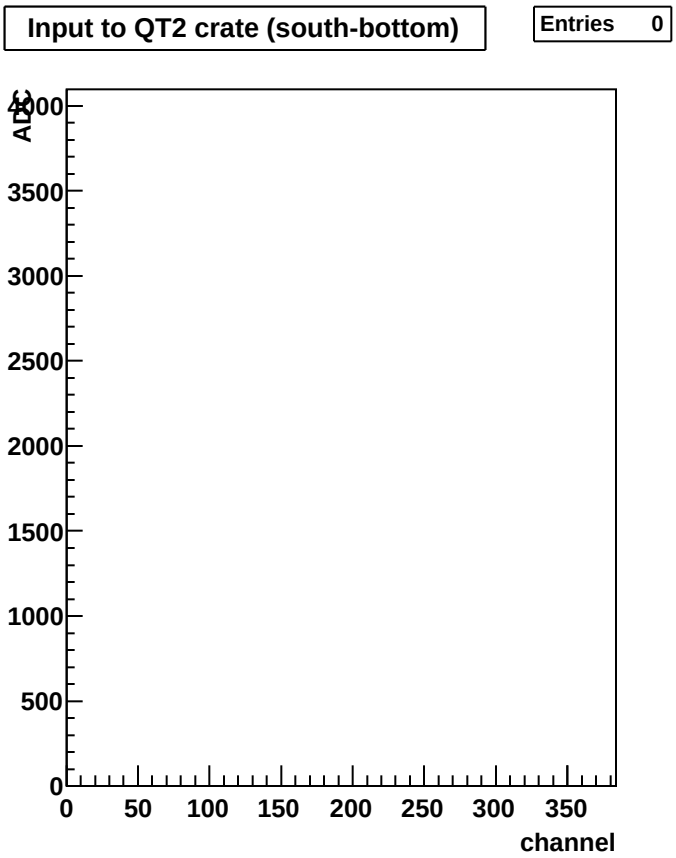

VPD-TAC-E
Entries 11371
Mean 1489
RMS 164.9

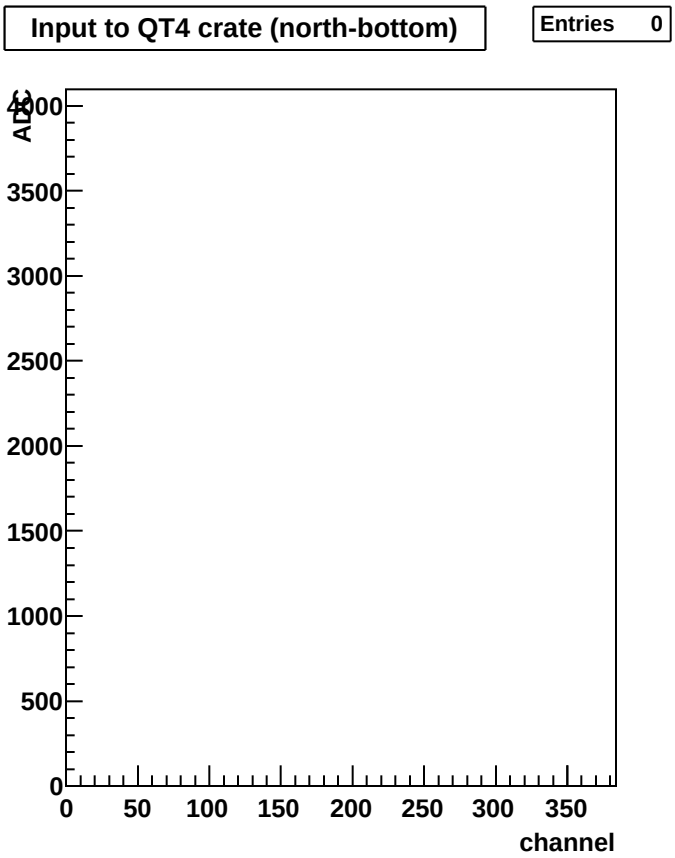

VPD-TAC-W
Entries 10991
Mean 1484
RMS 169.7

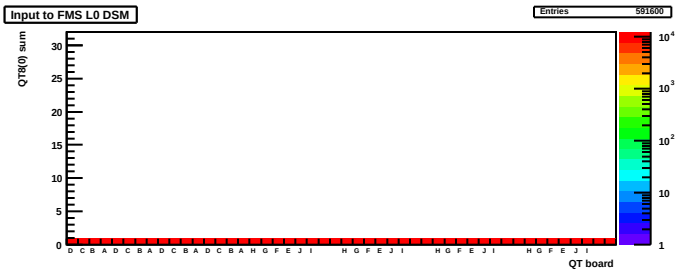

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 10168
Mean 4101
RMS 201.7

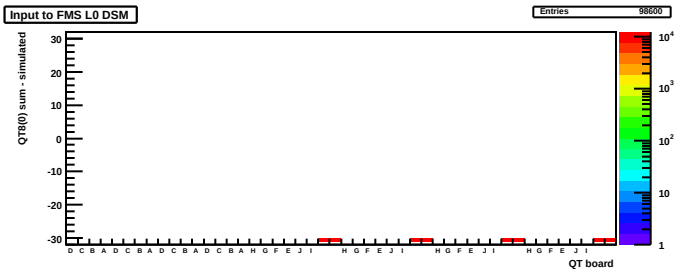

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

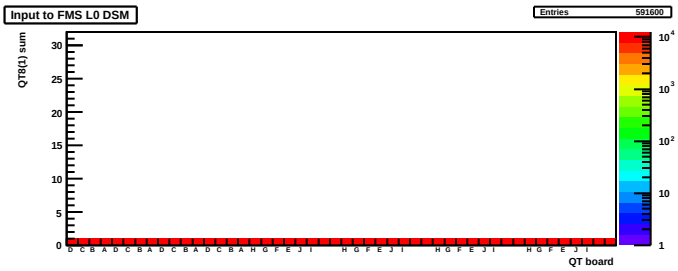

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

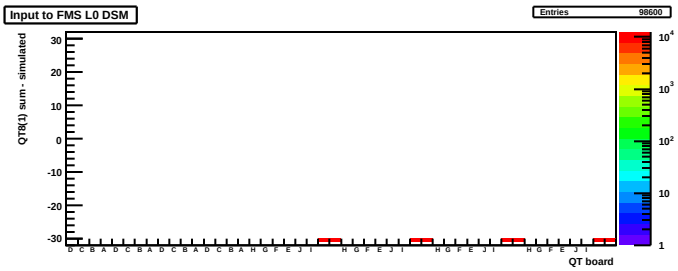

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

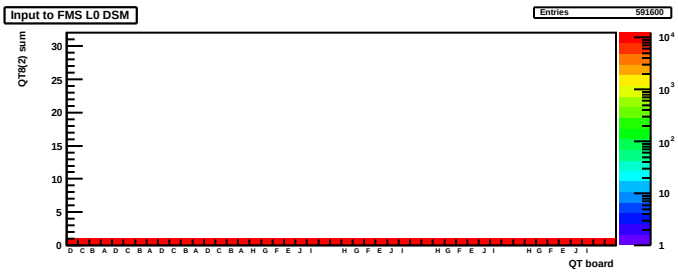

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

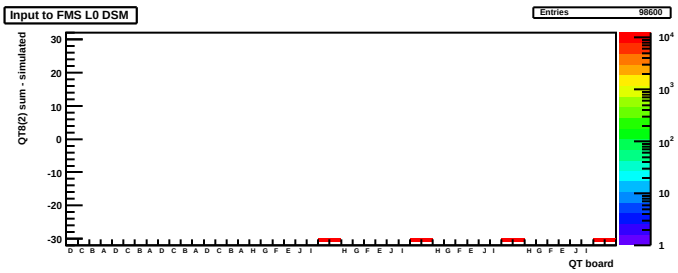

Input to FMS L0 DSM
Entries 591600
QT8(0) sum
QT board

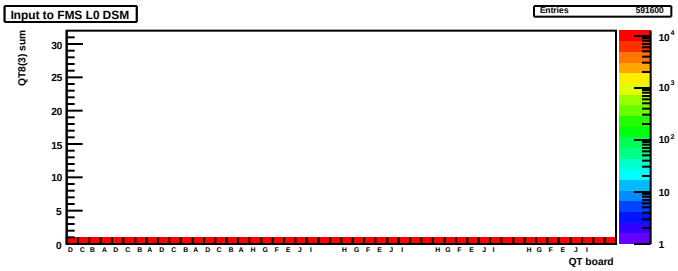

Input to FMS L0 DSM
Entries 98600
QT8(0) sum - simulated
QT board

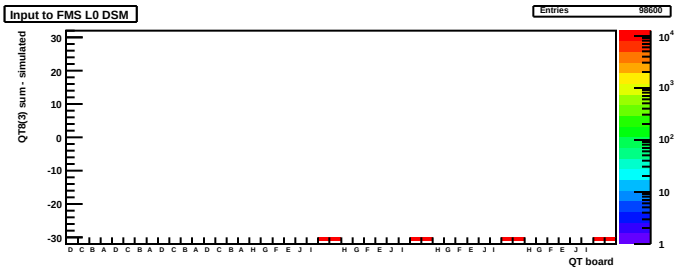

Input to FMS L0 DSM
Entries 591600
QT8(1) sum
QT board

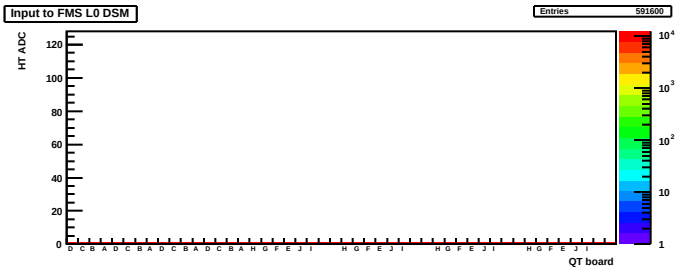

Input to FMS L0 DSM
Entries 98600
QT8(1) sum - simulated
QT board

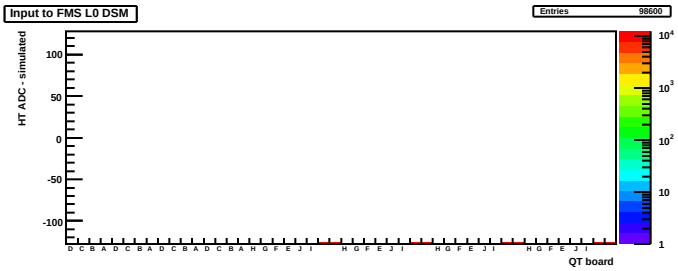

Input to FMS L0 DSM
Entries 591600
QT8(2) sum
QT board

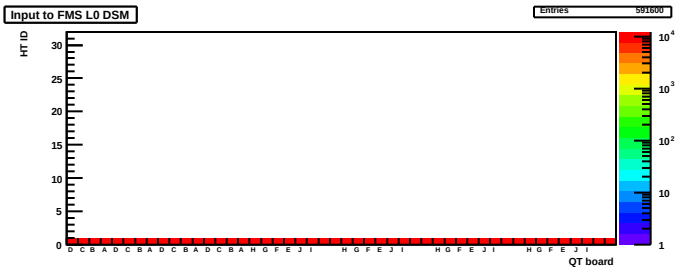

Input to FMS L0 DSM
Entries 98600
QT8(2) sum - simulated
QT board

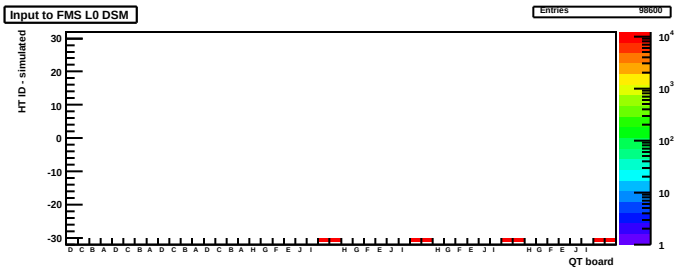

Input to FMS L0 DSM
Entries 591600
QT8(3) sum
QT board

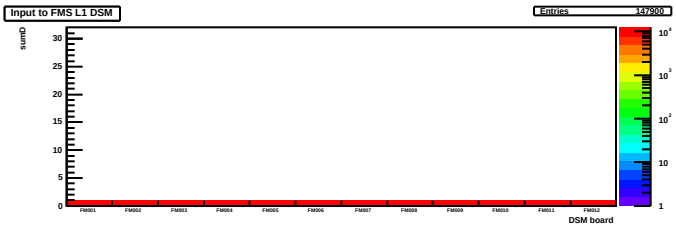

Input to FMS L0 DSM
Entries 98600
QT8(3) sum - simulated
QT board

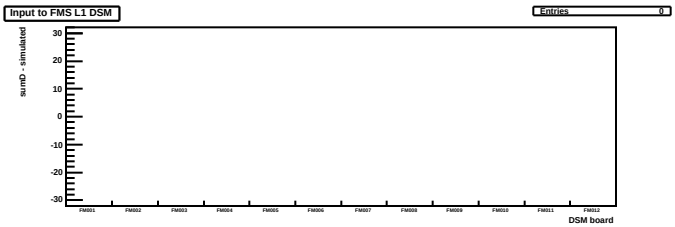

Input to FMS L0 DSM
Entries 591600
HT ADC
QT board

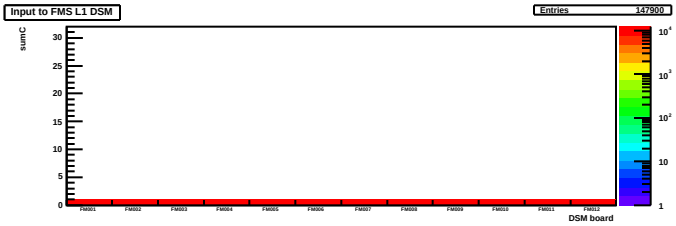

Input to FMS L0 DSM
Entries 98600
HT ADC - simulated
QT board

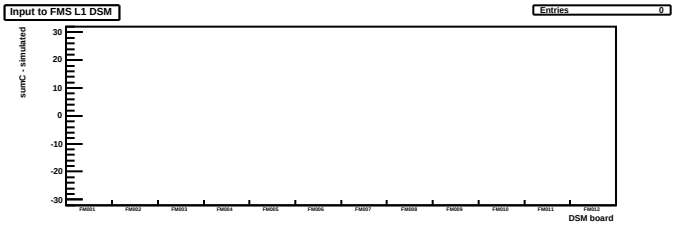

Input to FMS L0 DSM
Entries 591600
HT ID
QT board

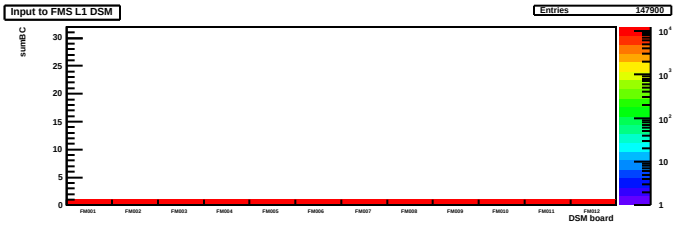

Input to FMS L0 DSM
Entries 98600
HT ID - simulated
QT board

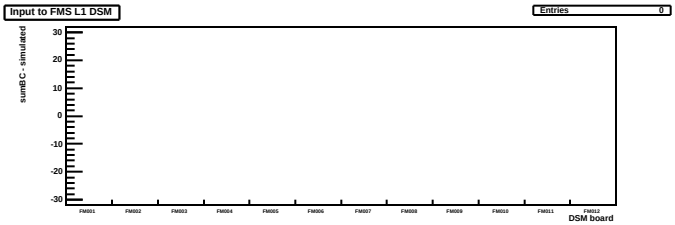

Input to FMS L1 DSM
Entries 147900
sumD
DSM board

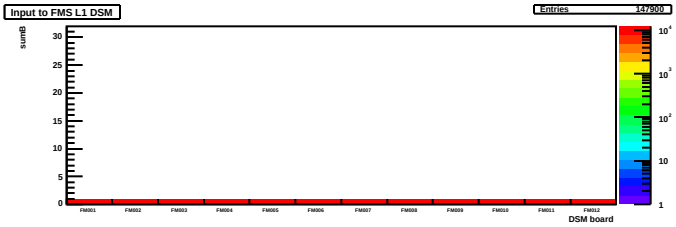

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

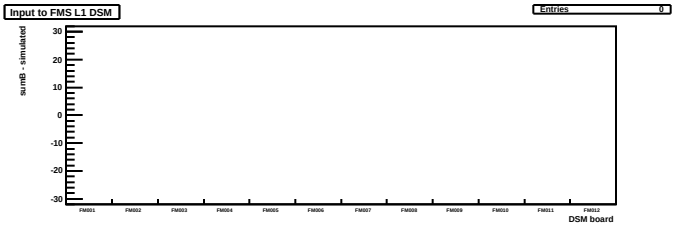

Input to FMS L1 DSM
Entries 147900
sumC
DSM board

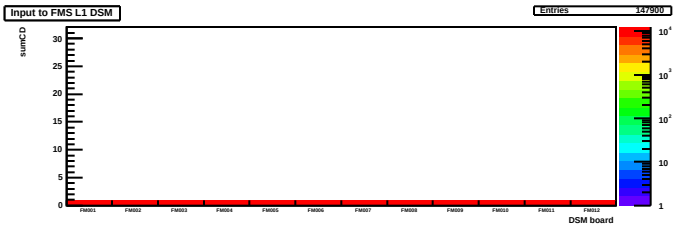

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

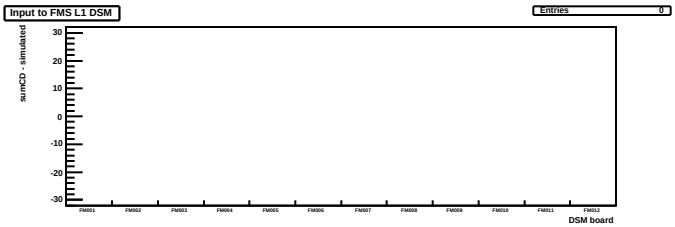

Input to FMS L1 DSM
Entries 147900
sumBC
DSM board

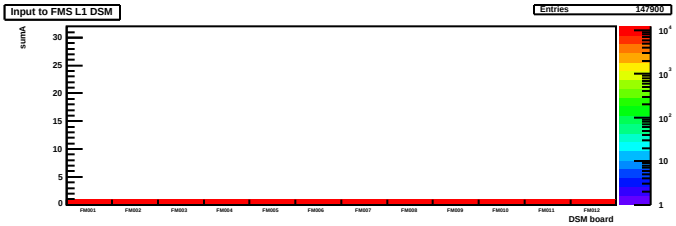

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

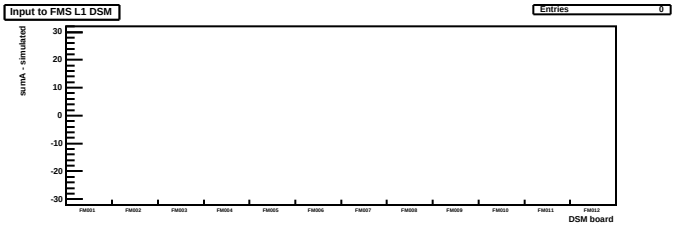

Input to FMS L1 DSM
Entries 147900
sumB
DSM board

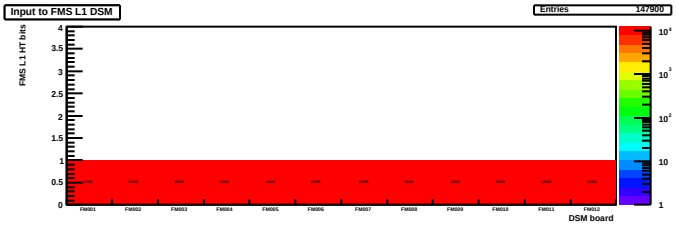

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

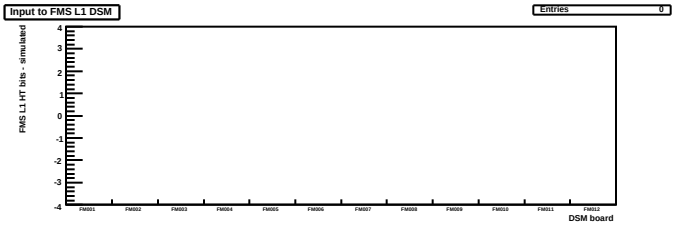

Input to FMS L1 DSM
Entries 147900
sumCD
DSM board

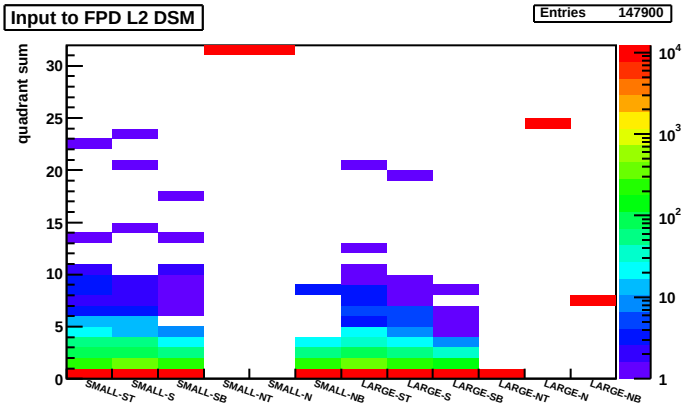

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

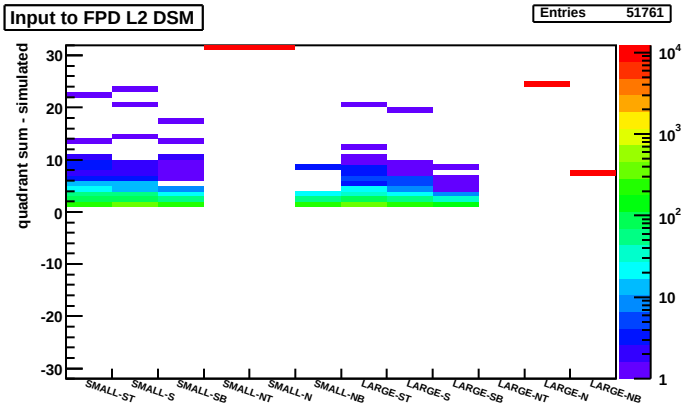

Input to FMS L1 DSM
Entries 147900
sumA
DSM board

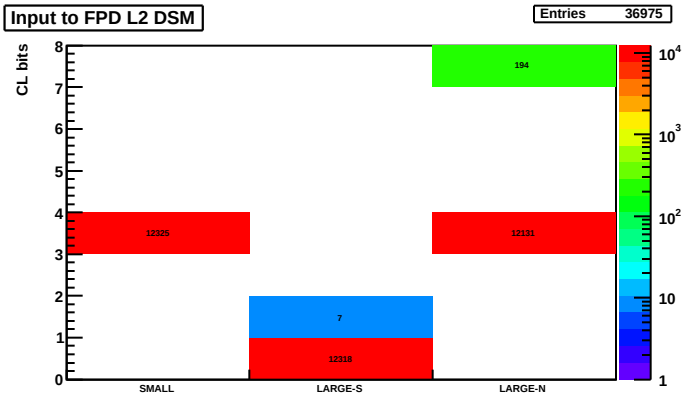

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

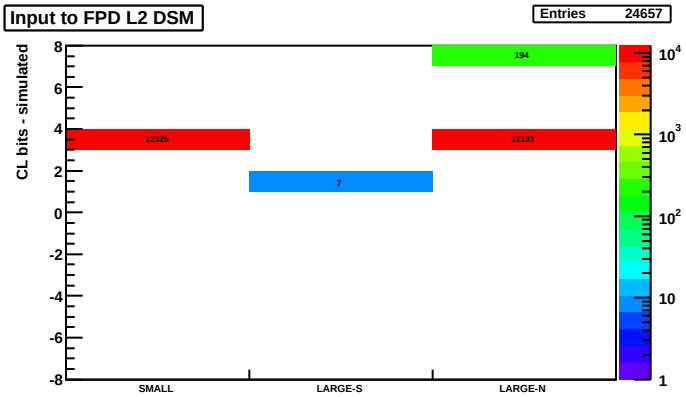

Input to FMS L1 DSM
Entries 147900
FMS L1 HT bits
DSM board

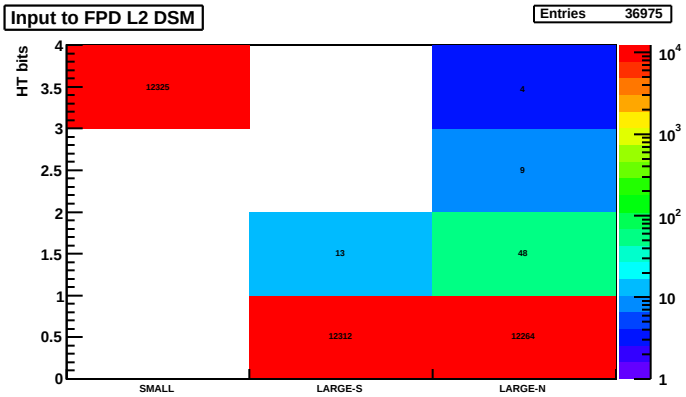

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

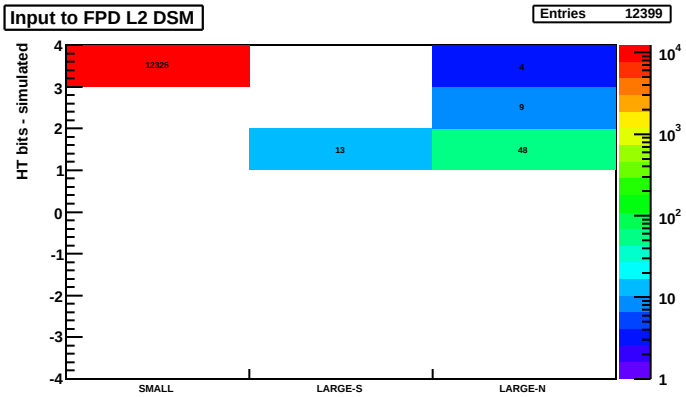

Input to FPD L2 DSM
Entries 147900
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

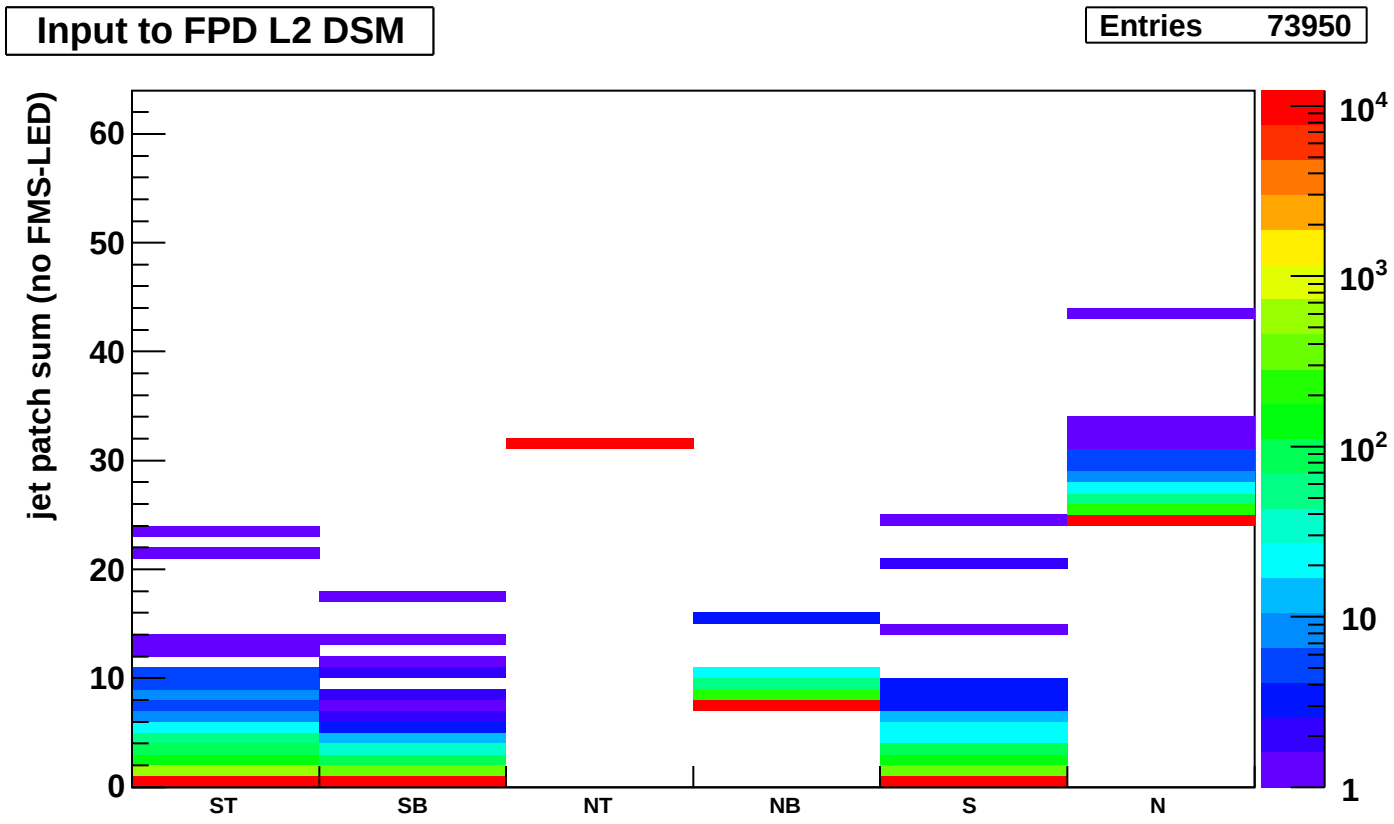

Input to FPD L2 DSM
Entries 51761
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

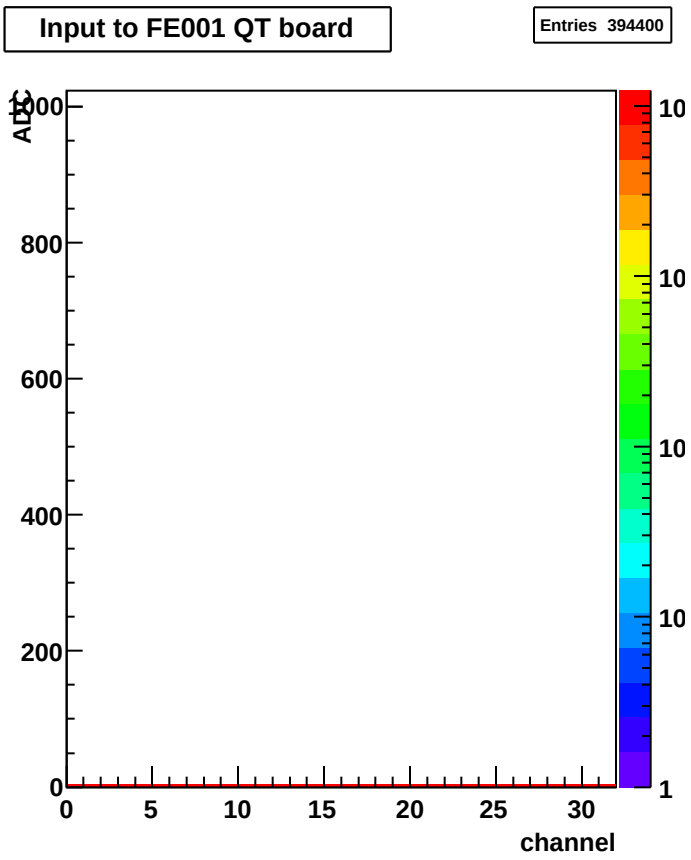

Input to FPD L2 DSM
Entries 36975
CL bits
194
12325
12131
7
12318
SMALL
LARGE-S
LARGE-N

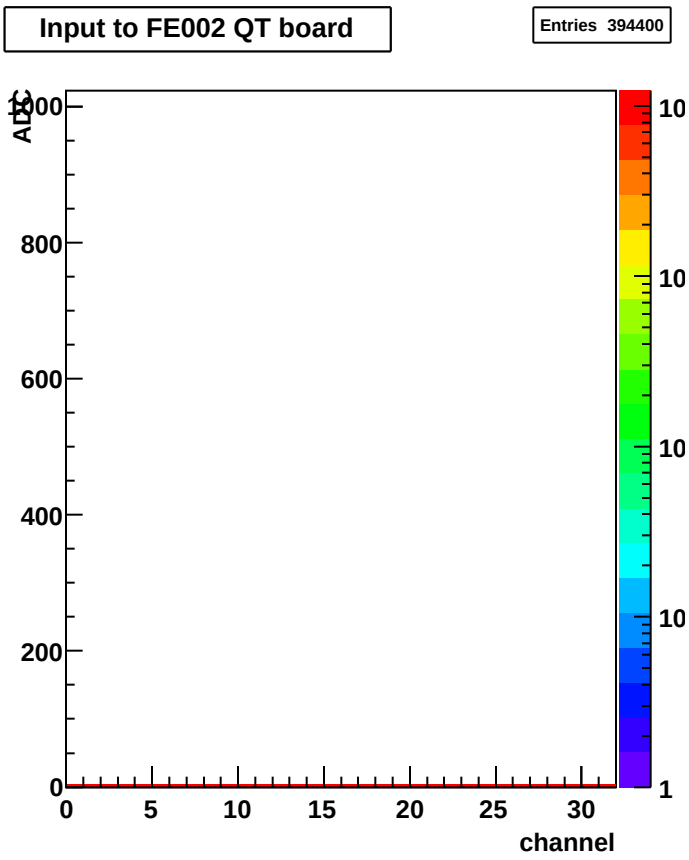

Input to FPD L2 DSM
Entries 24657
CL bits - simulated
194
12325
12131
7
SMALL
LARGE-S
LARGE-N

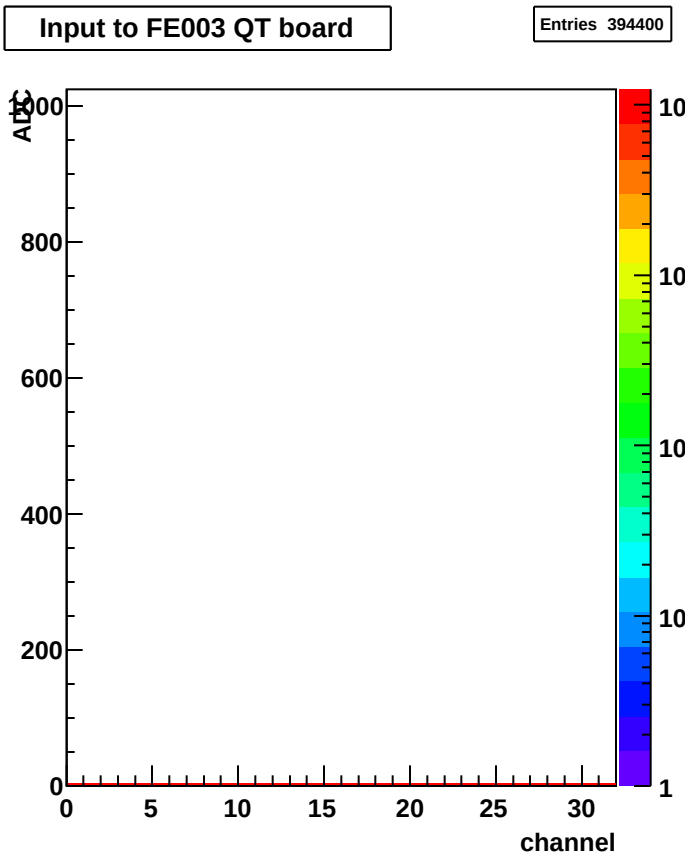

Input to FPD L2 DSM
Entries 36975
HT bits
12325
4
9
13
48
12312
12264
SMALL
LARGE-S
LARGE-N

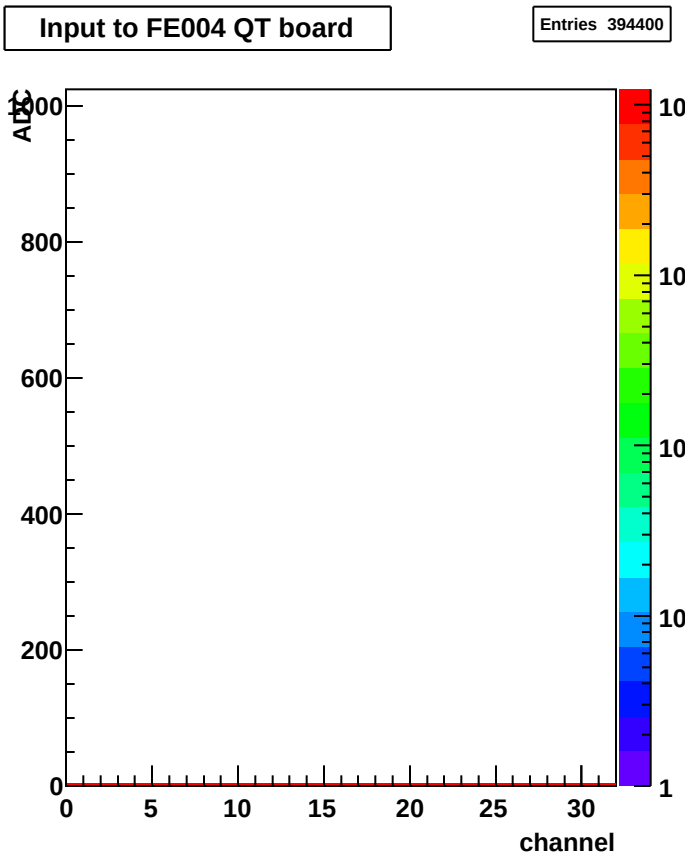

Input to FPD L2 DSM
Entries 12399
HT bits - simulated
12325
4
9
13
48
SMALL
LARGE-S
LARGE-N

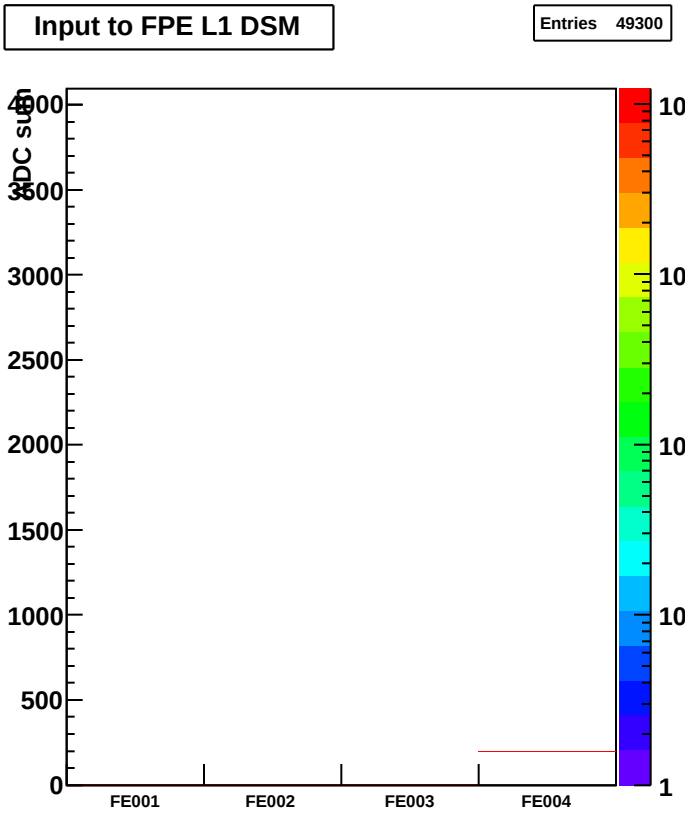

Input to FPD L2 DSM
Entries 73950
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

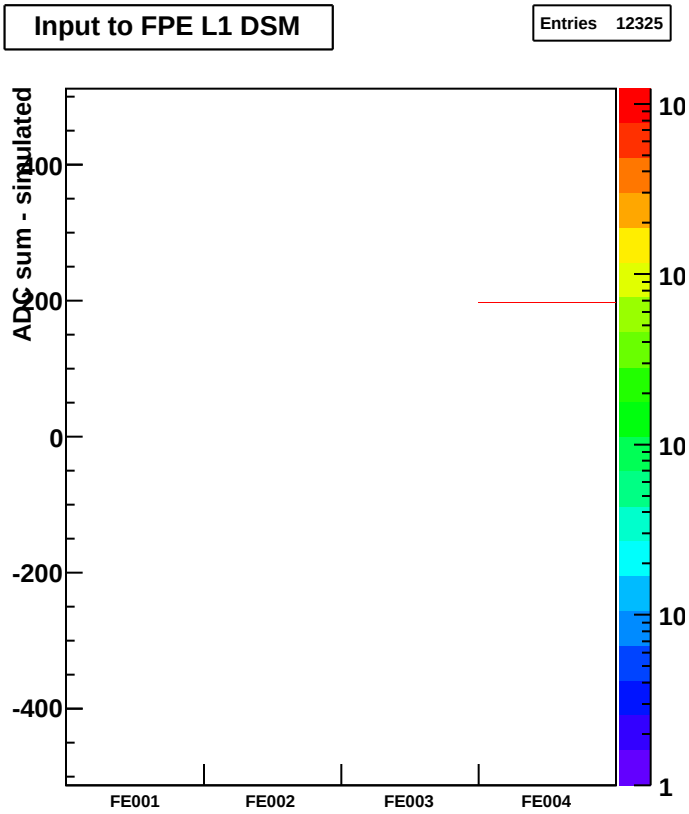

Input to FE001 QT board
Entries 394400
ADC
channel

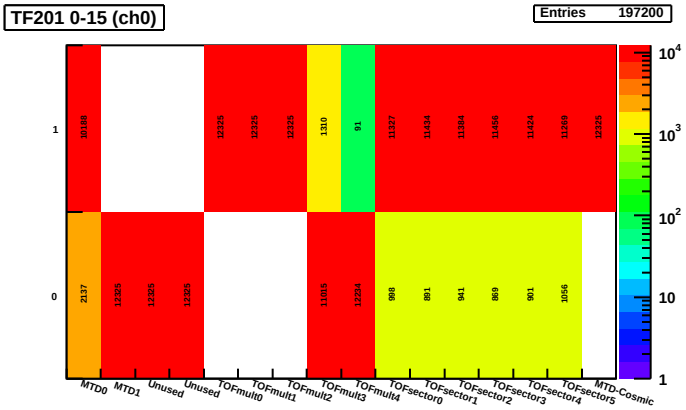

Input to FE002 QT board
Entries 394400
ADC
channel

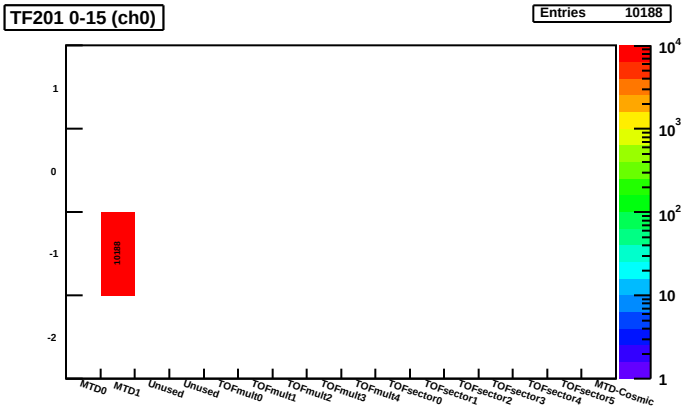

Input to FE003 QT board
Entries 394400
ADC
channel

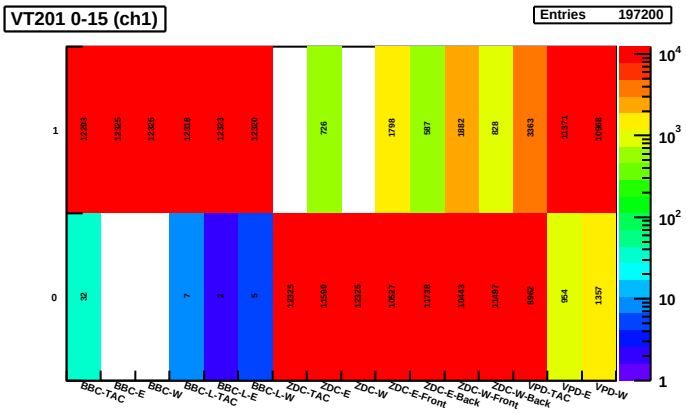

Input to FE004 QT board
Entries 394400
ADC
channel

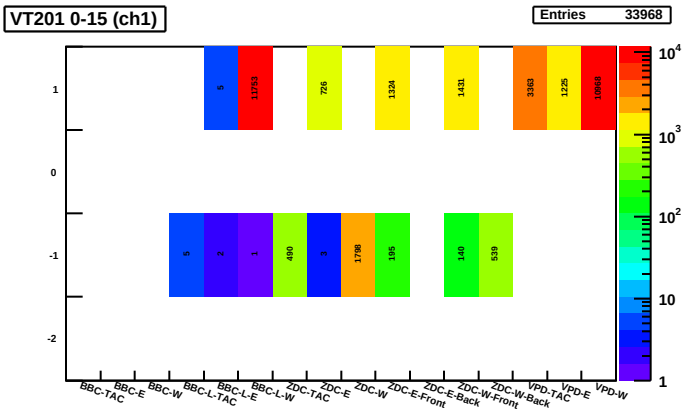

Input to FPE L1 DSM
Entries 49300
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1

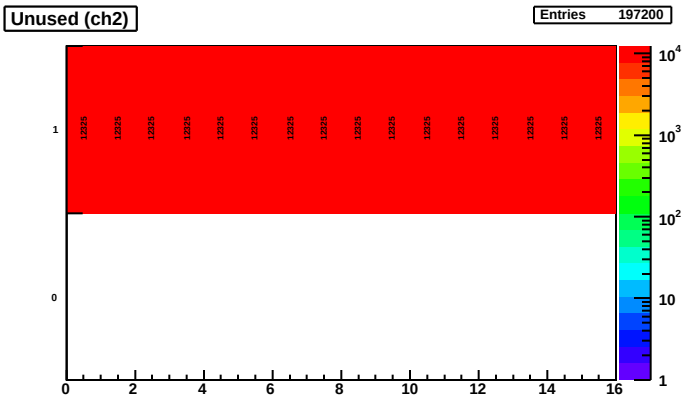

Input to FPE L1 DSM
Entries 12325
ADC sum - simulated
200
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1

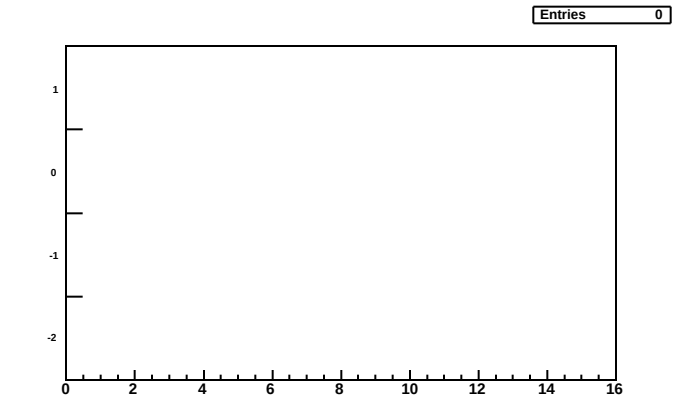

TF201 0-15 (ch0)
Entries 197200
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

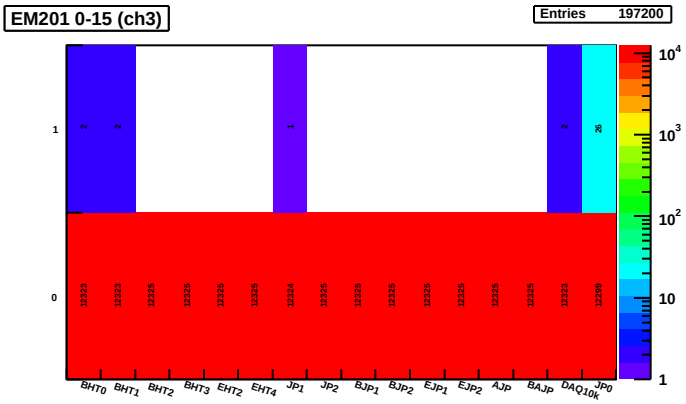

TF201 0-15 (ch0)
Entries 10188
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

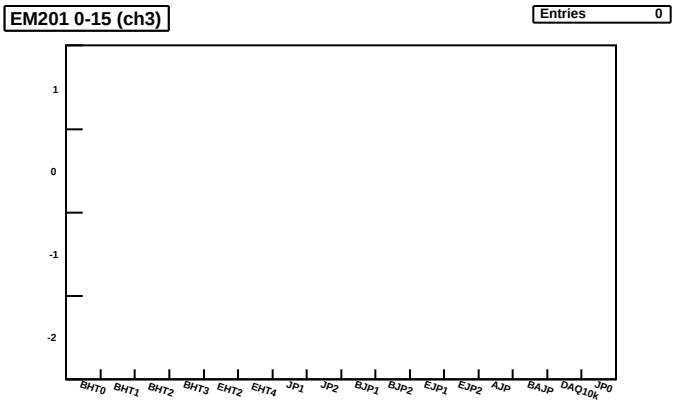

VT201 0-15 (ch1)
Entries 197200
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 33968
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

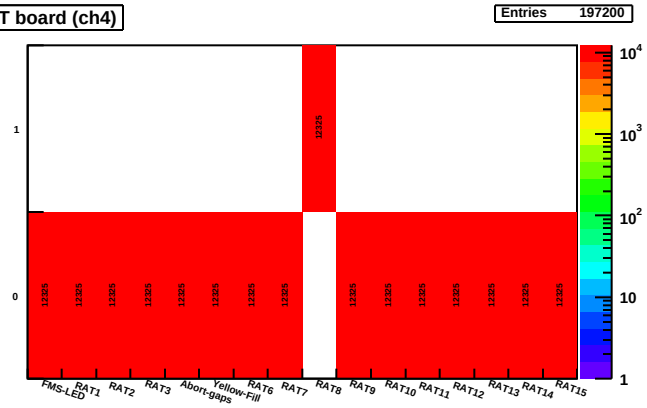

Unused (ch2)
Entries 197200

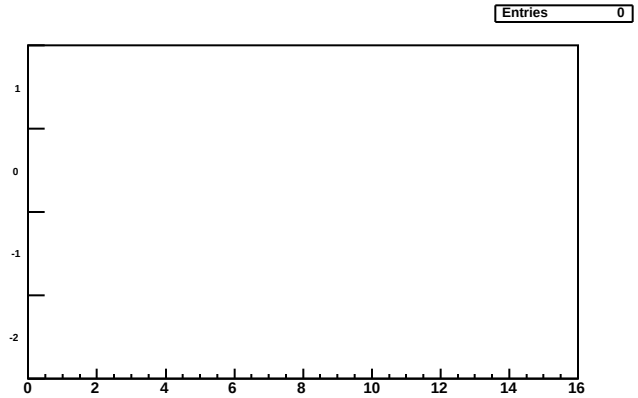

Entries 0


EM201 0-15 (ch3)
Entries 197200
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

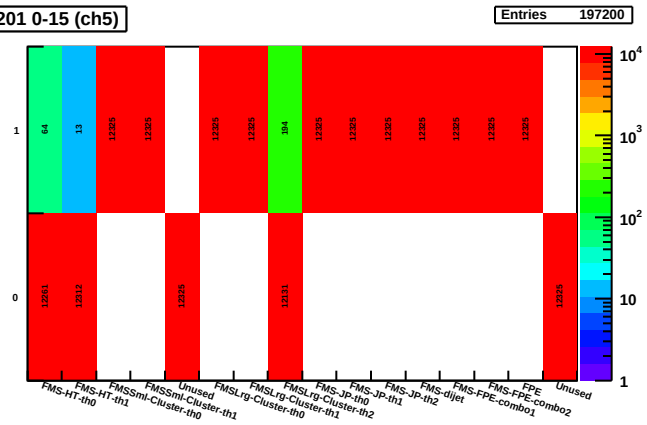

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

RAT board (ch4)

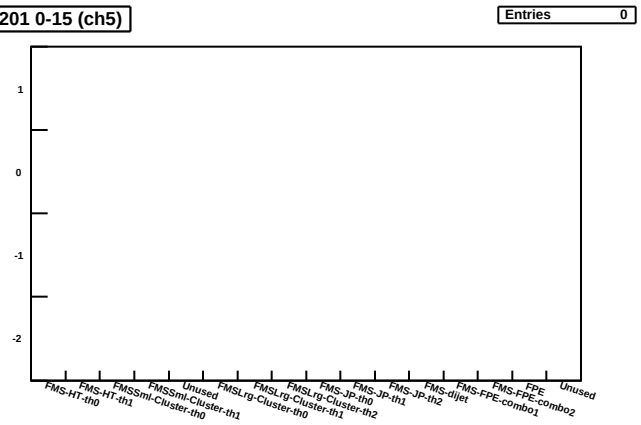




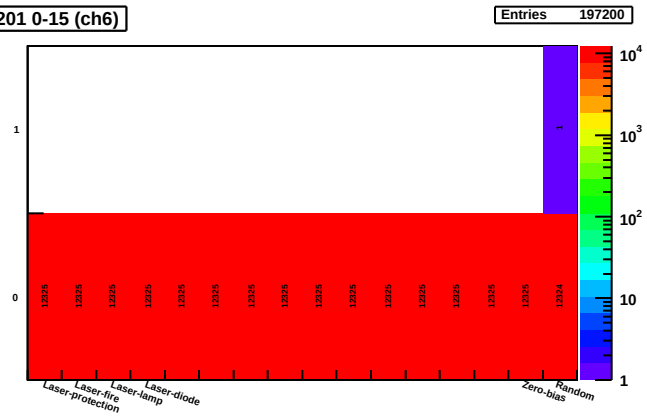
FP201 0-15 (ch5)

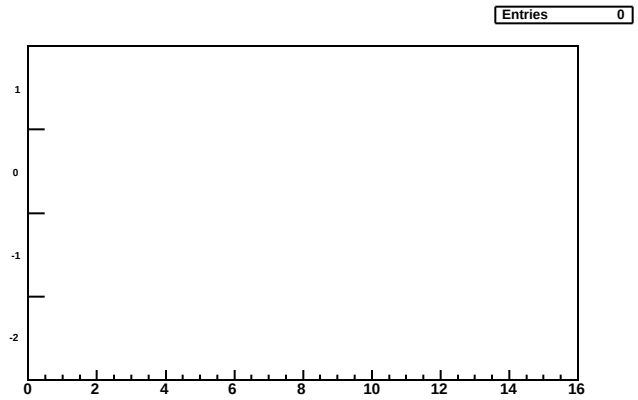
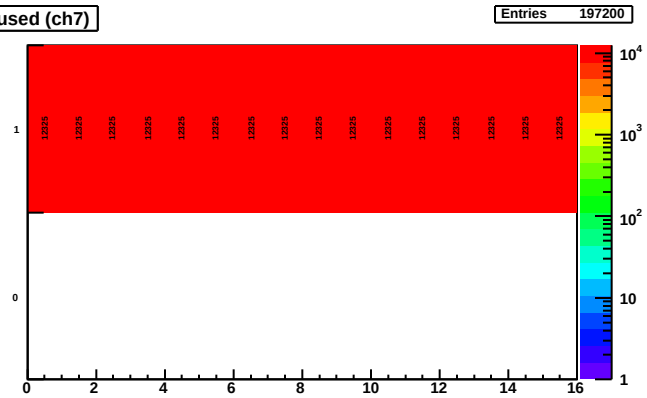
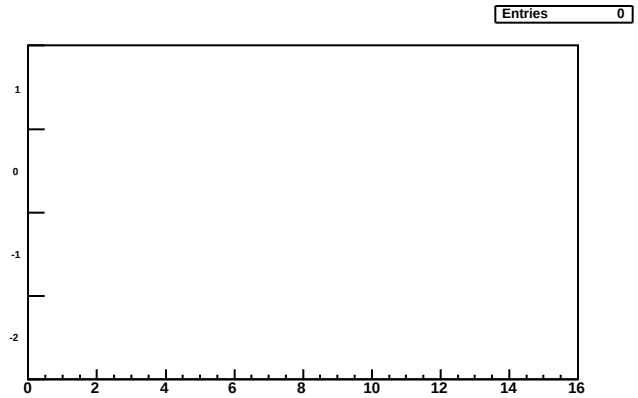


FP201 0-15 (ch5)



ST201 0-15 (ch6)





Unused (ch7)