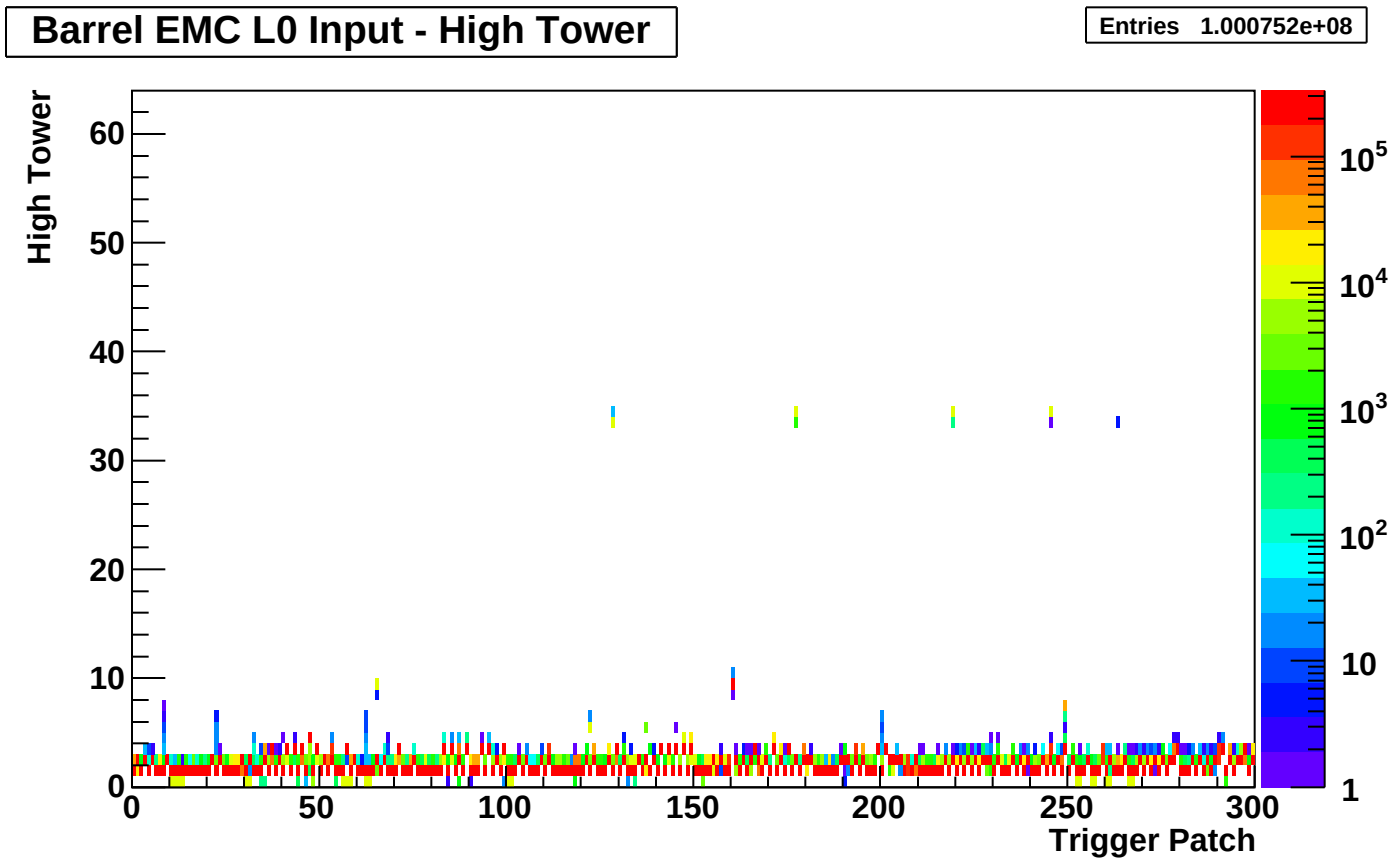
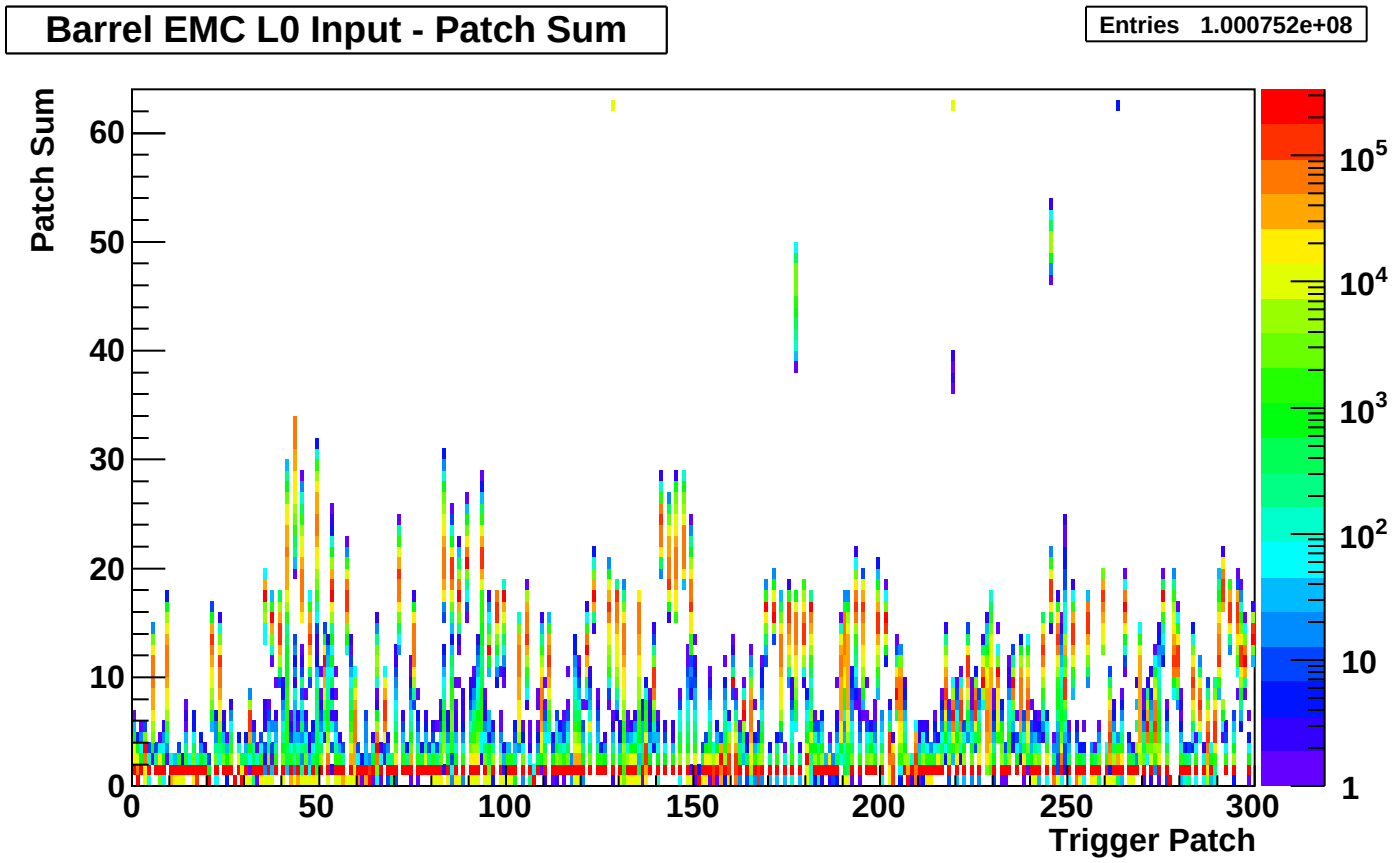
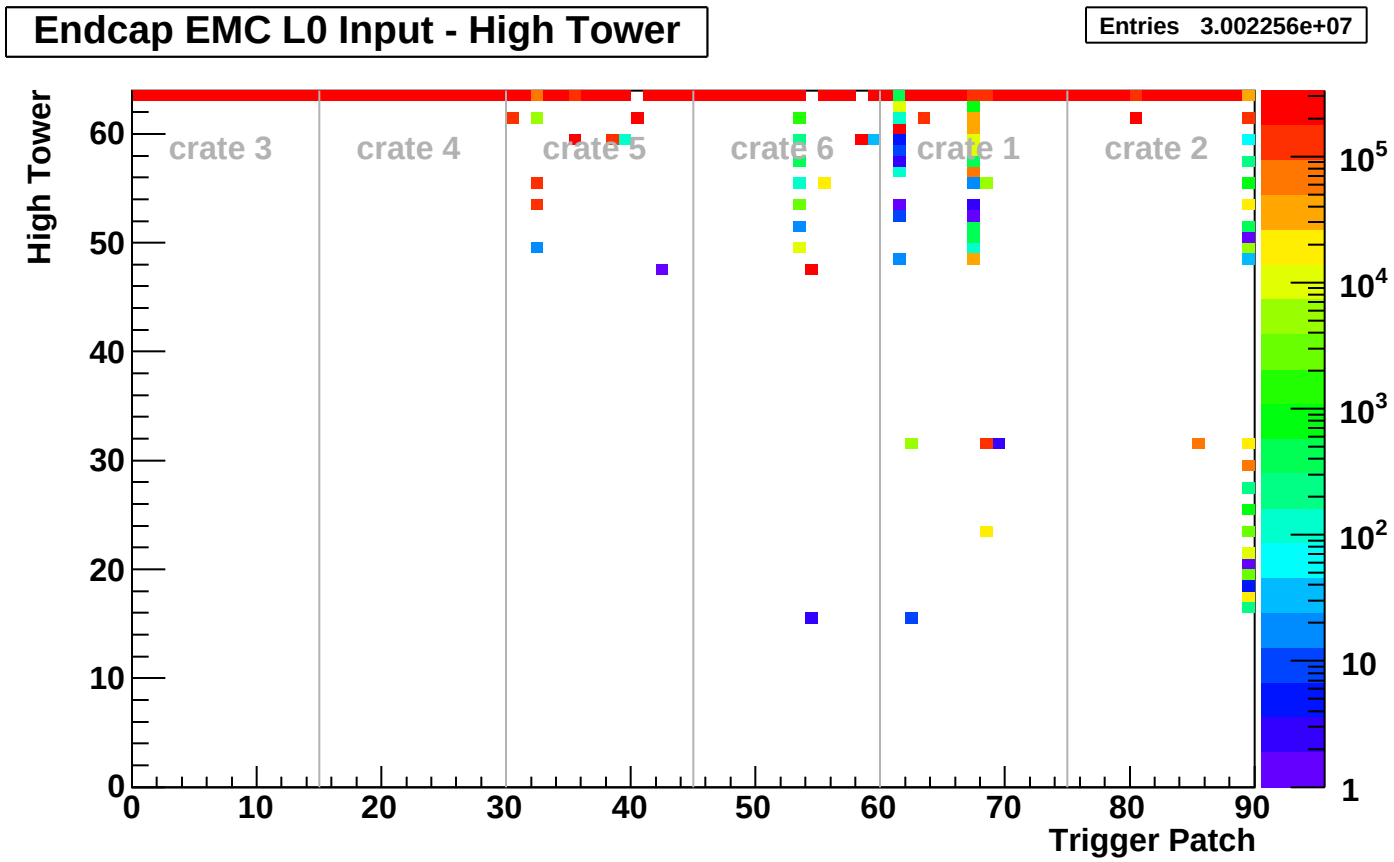
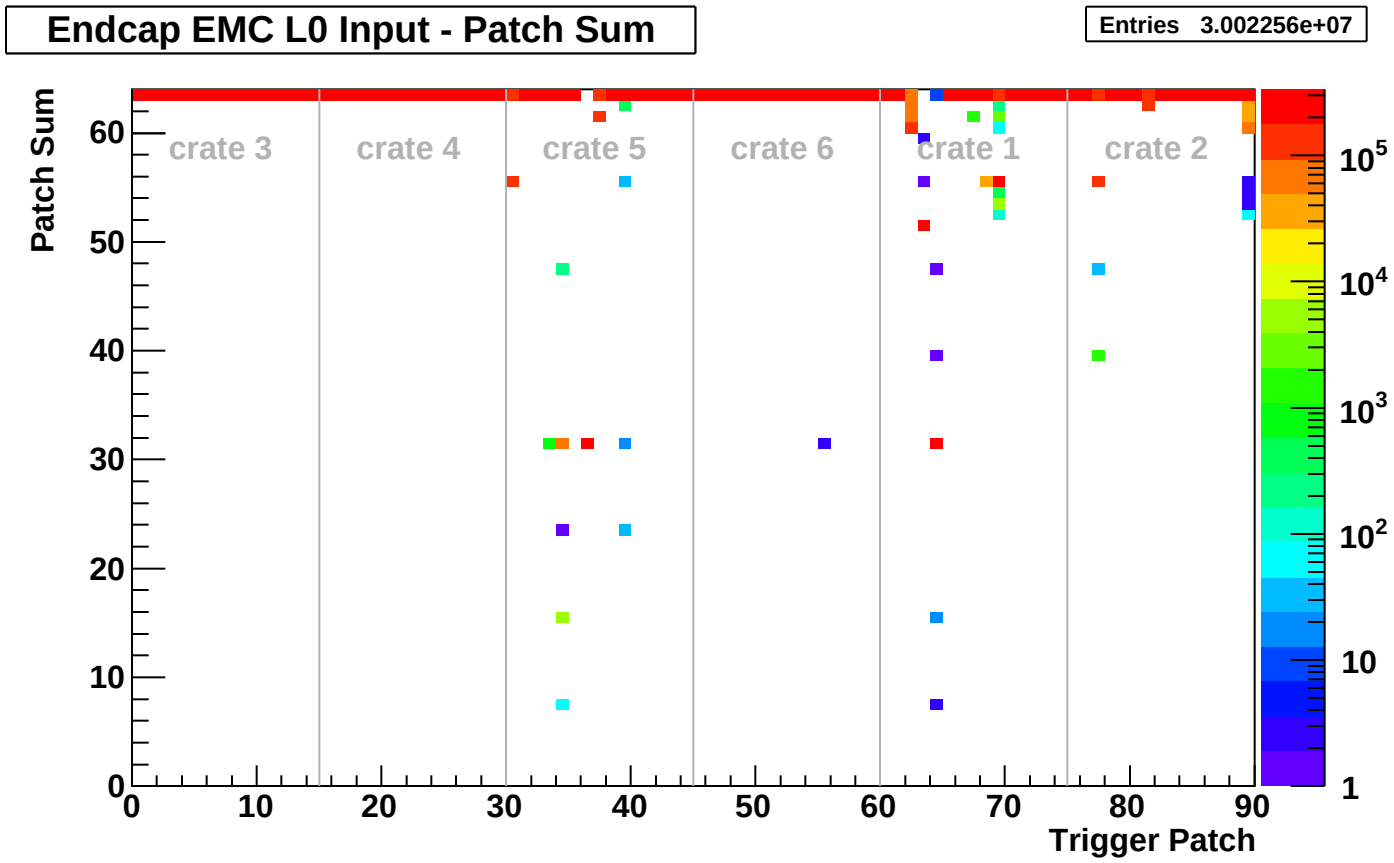
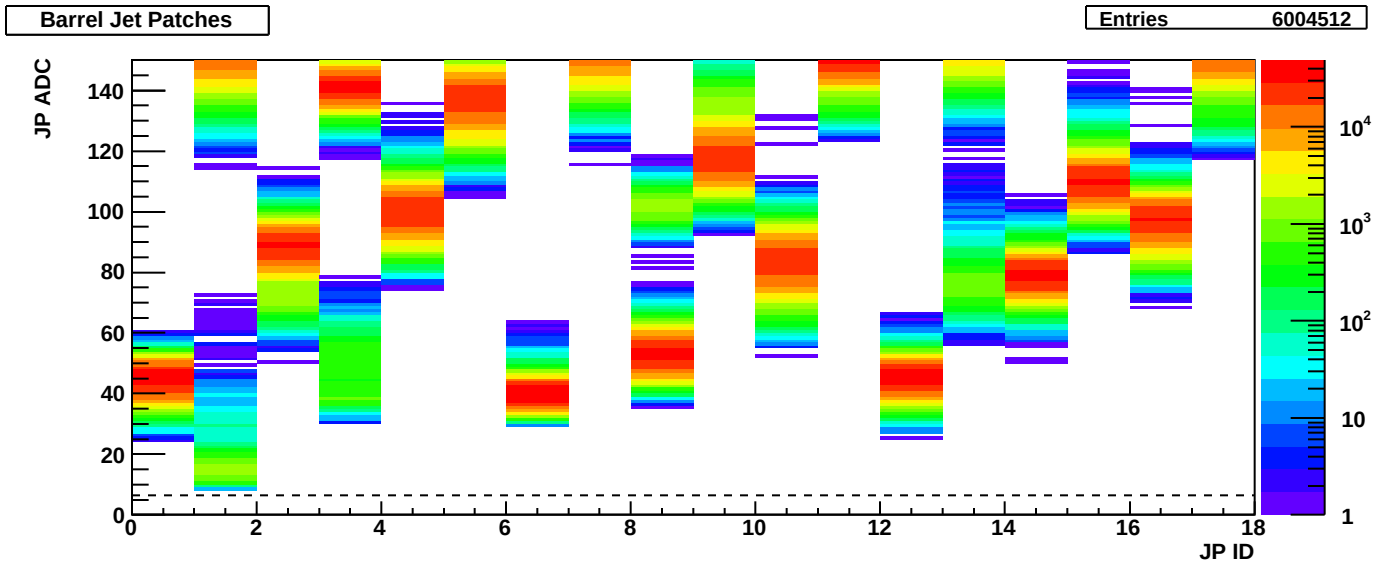
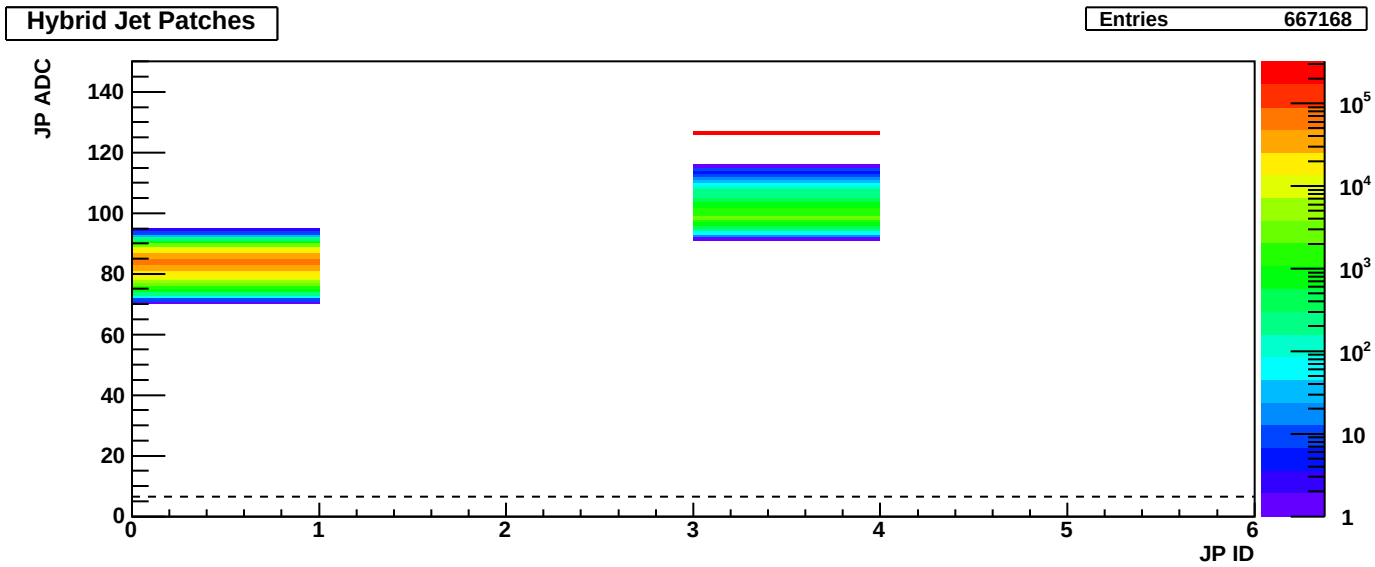

Barrel EMC L0 Input - High Tower
Entries 1.000752e+08
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

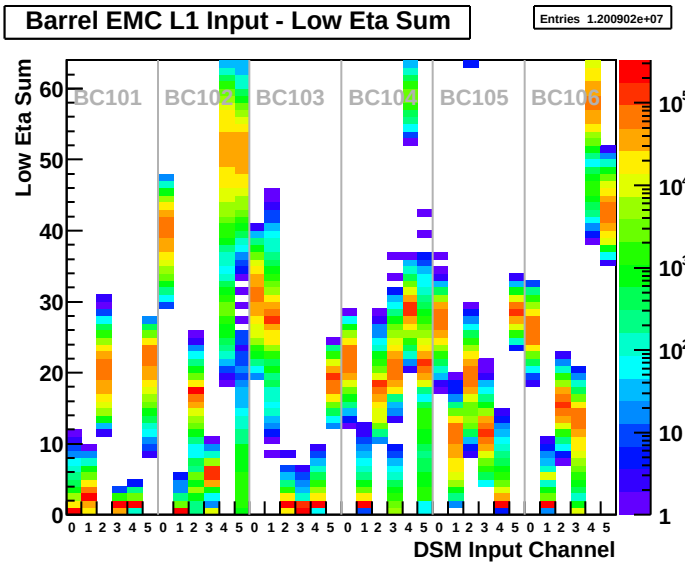

Barrel EMC L0 Input - Patch Sum
Entries 1.000752e+08
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

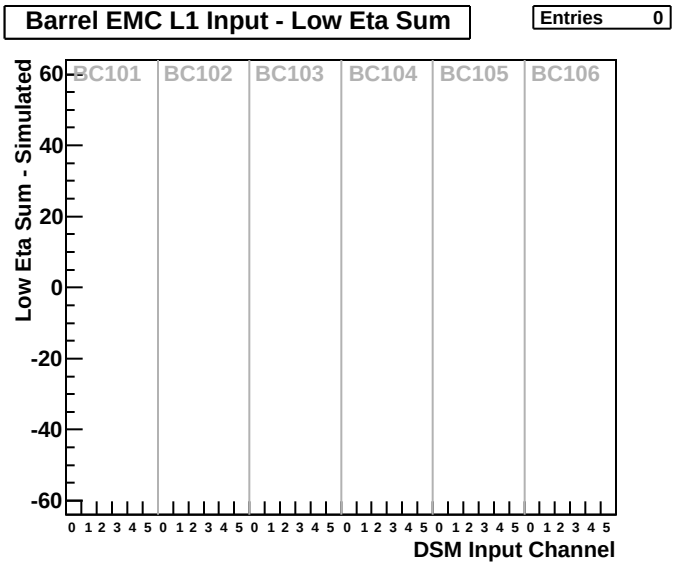

Endcap EMC L0 Input - High Tower
Entries 3.002256e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

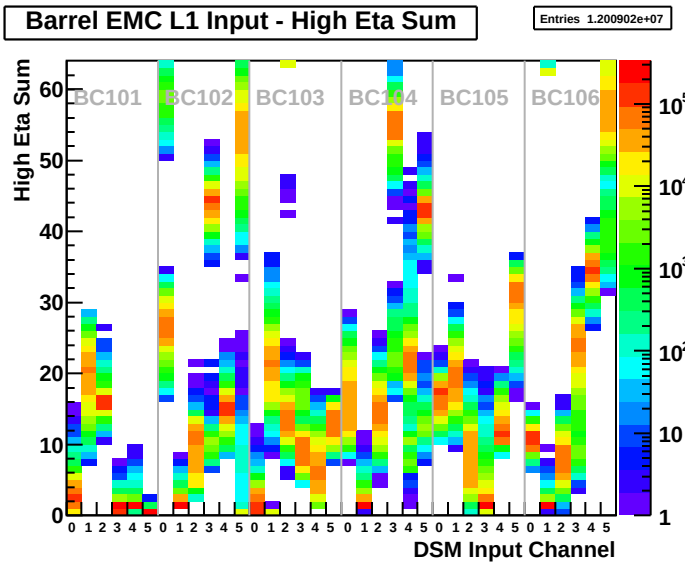

Endcap EMC L0 Input - Patch Sum
Entries 3.002256e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

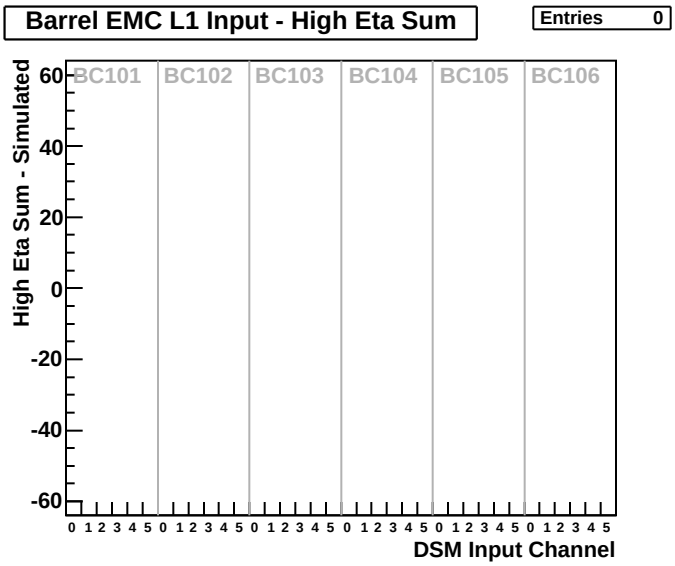

Barrel Jet Patches
Entries 6004512
JP ADC
JP ID

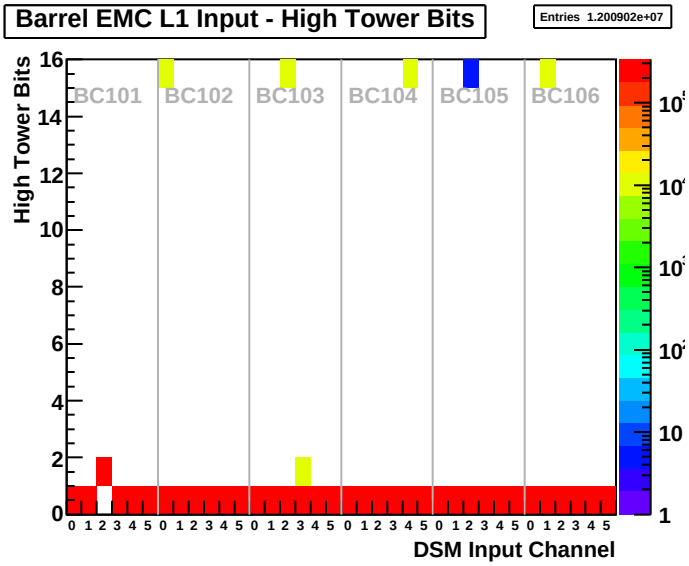

Hybrid Jet Patches
Entries 667168
JP ADC
JP ID

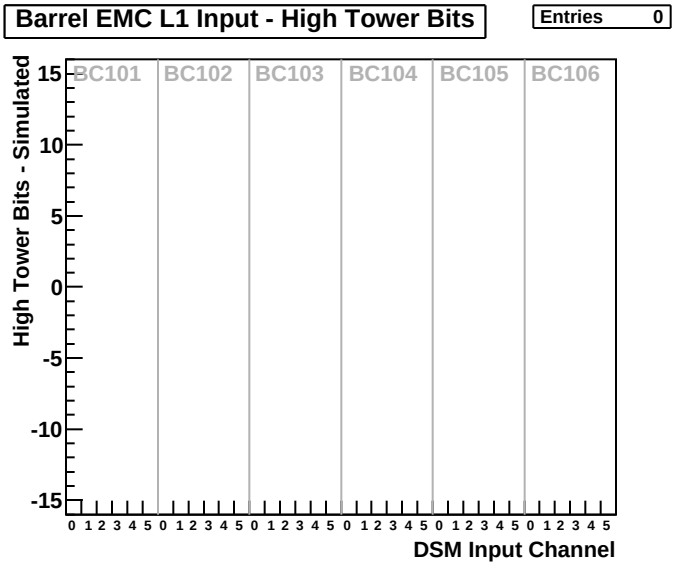

Barrel EMC L1 Input - Low Eta Sum
Entries 1.200902e+07
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

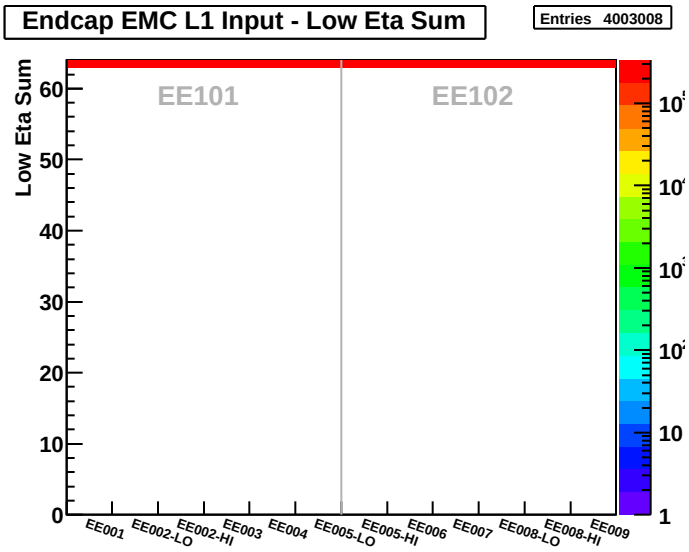

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

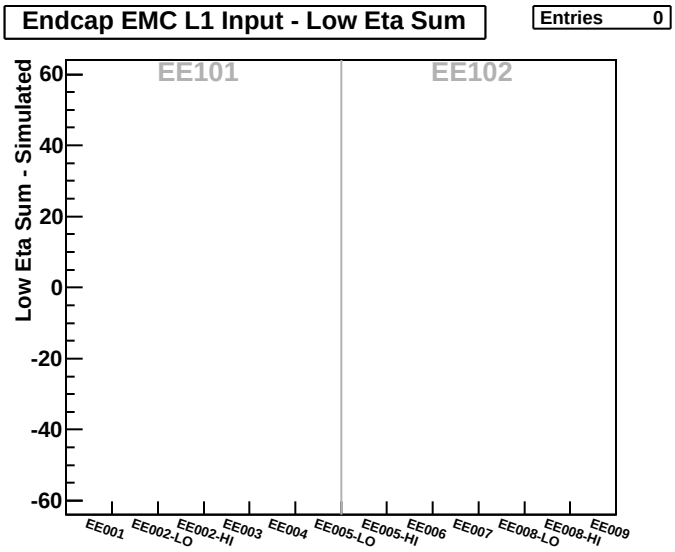

Barrel EMC L1 Input - High Eta Sum
Entries 1.200902e+07
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

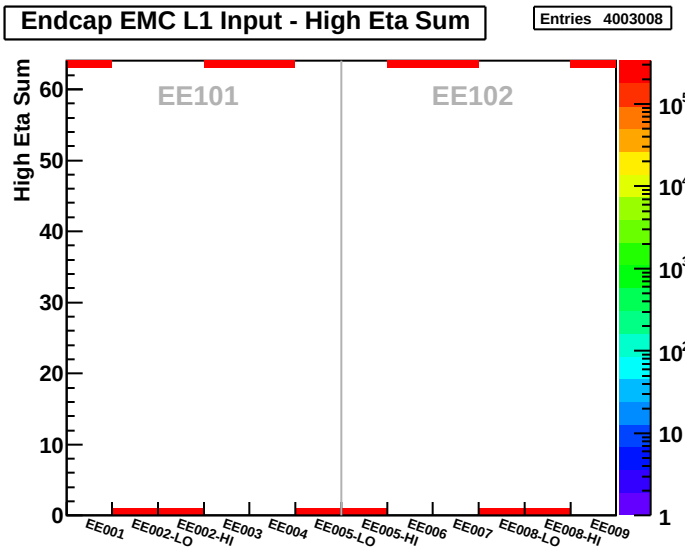

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

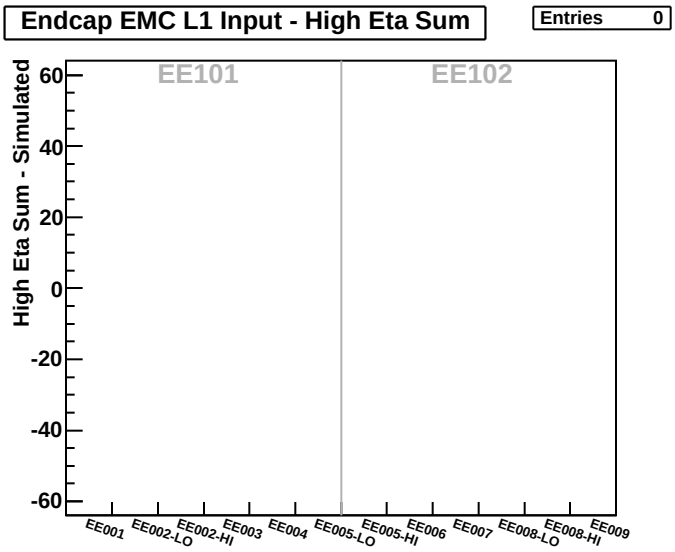

Barrel EMC L1 Input - High Tower Bits
Entries 1.200902e+07
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

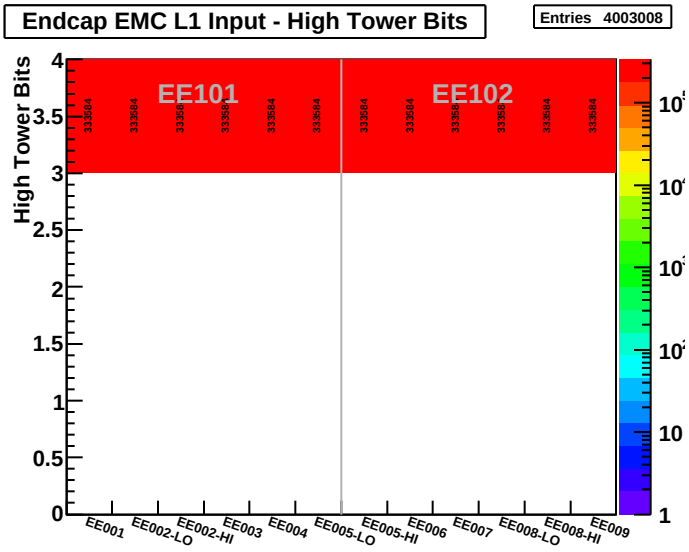

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

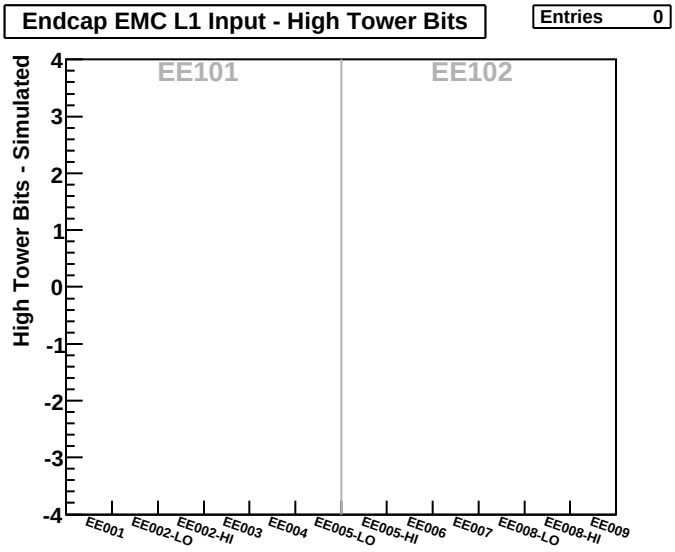

Endcap EMC L1 Input - Low Eta Sum
Entries 4003008
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

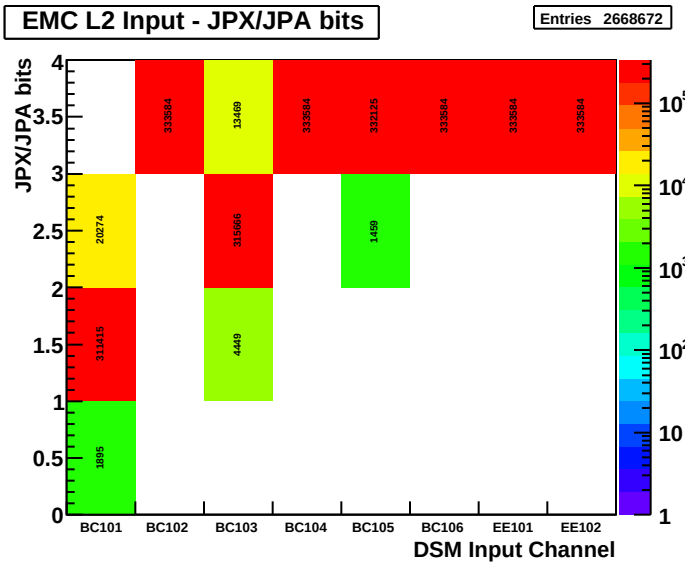

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

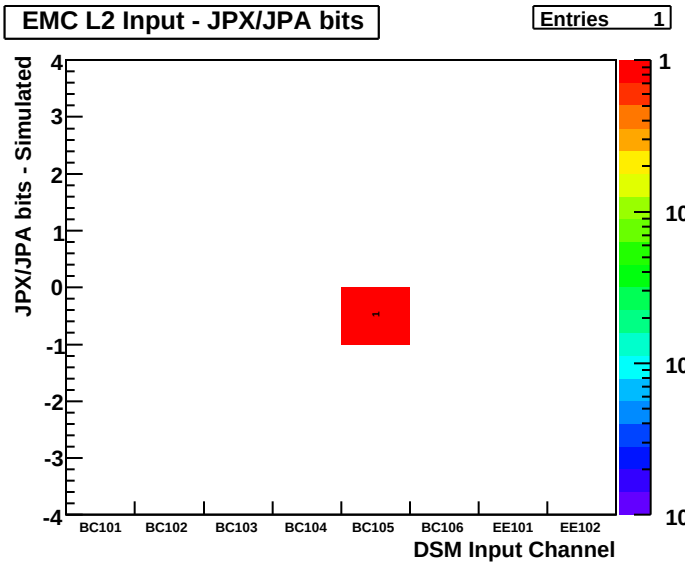

Endcap EMC L1 Input - High Eta Sum
Entries 4003008
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

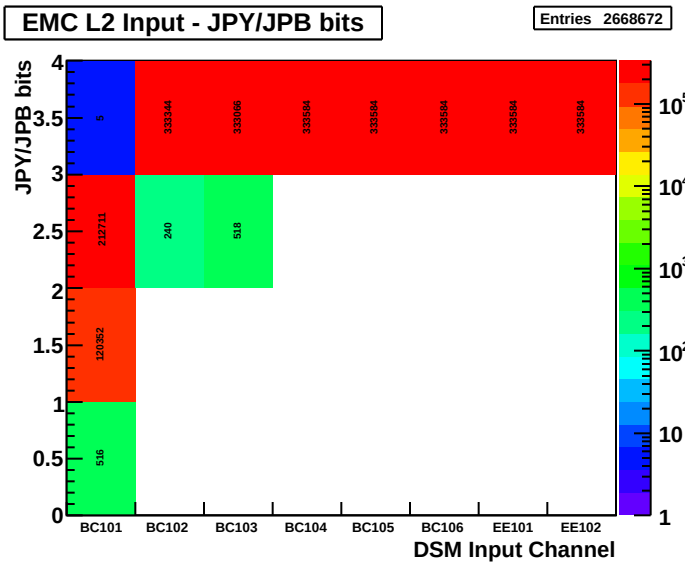

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

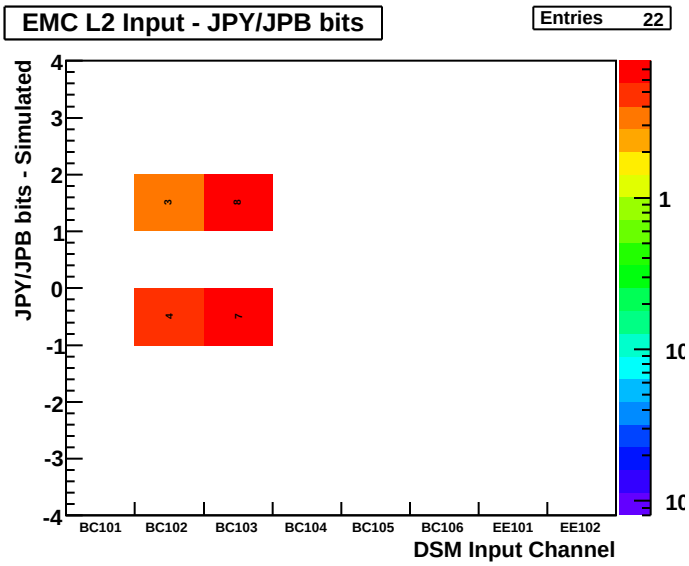

Endcap EMC L1 Input - High Tower Bits
Entries 4003008
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

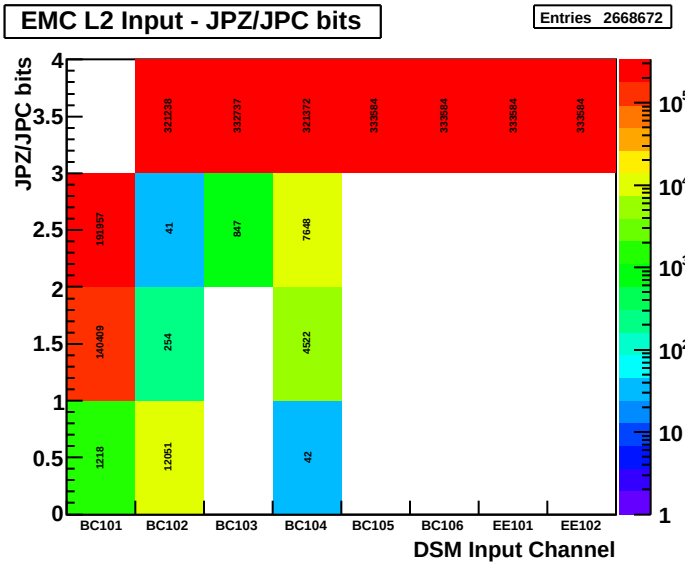

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

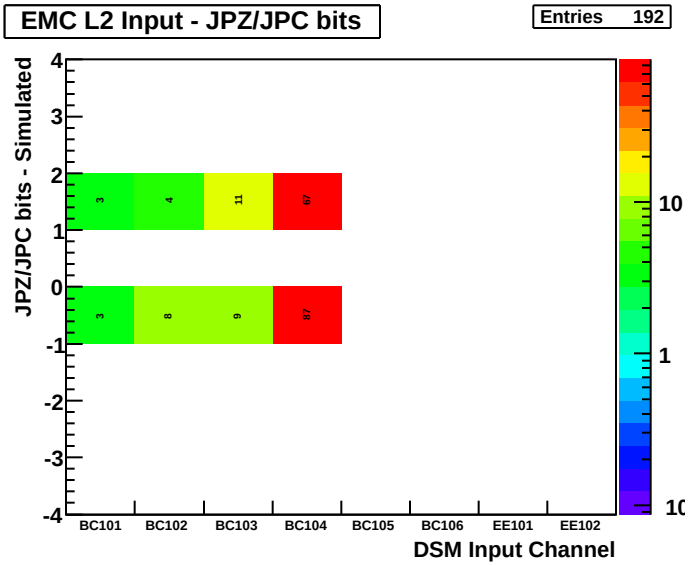

EMC L2 Input - JPX/JPA bits
Entries 2668672
JPX/JPA bits
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102
333584
13469
333584
332125
333584
333584
333584
20274
315666
1459
314415
4449
1995

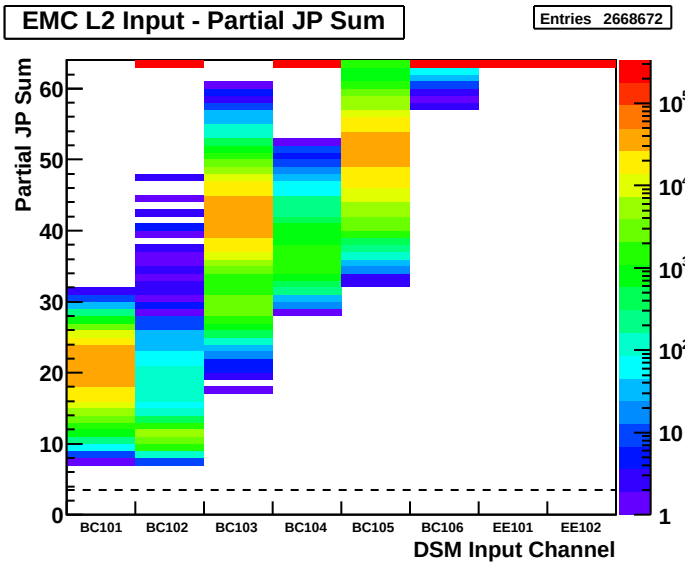

EMC L2 Input - JPX/JPA bits
Entries 1
JPX/JPA bits - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102
1

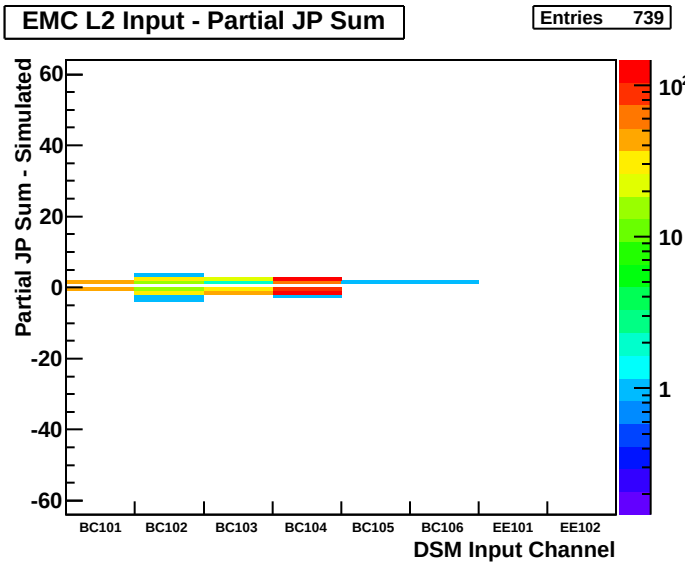

EMC L2 Input - JPY/JPB bits
Entries 2668672
JPY/JPB bits
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102
5
333344
332066
333584
333584
333584
333584
333584
212711
240
518
120352
516

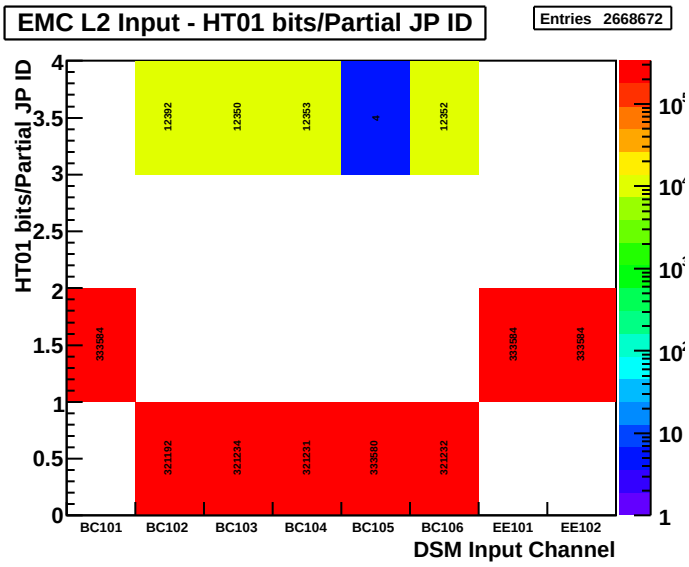

EMC L2 Input - JPY/JPB bits
Entries 22
JPY/JPB bits - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102
3
8
4
7

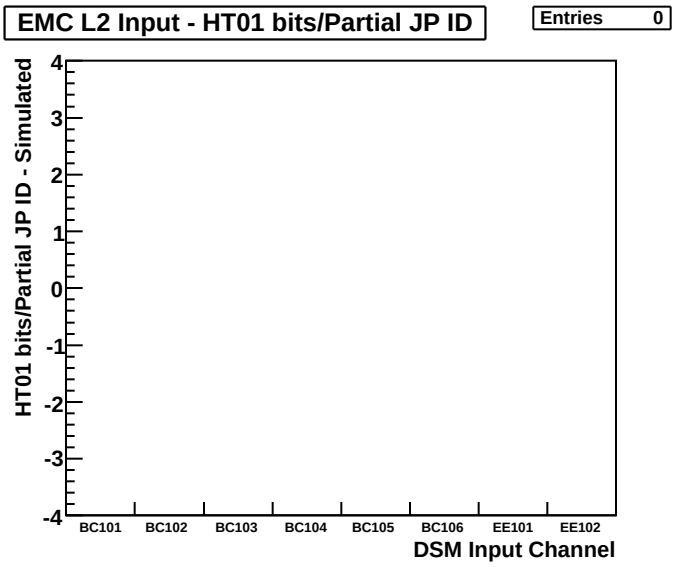

EMC L2 Input - JPZ/JPC bits
Entries 2668672
JPZ/JPC bits
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102
321238
332737
321372
333584
333584
333584
333584
191957
41
847
7648
140409
254
4522
1218
12051
42

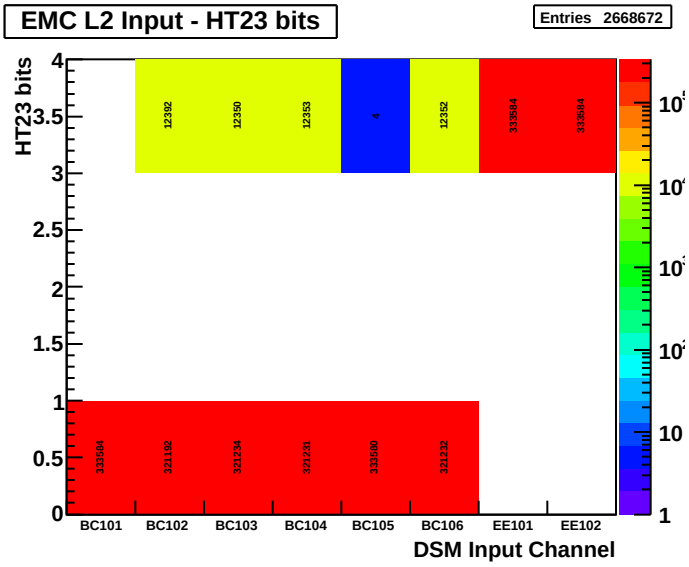

EMC L2 Input - JPZ/JPC bits
Entries 192
JPZ/JPC bits - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102
3
4
11
67
3
8
9
87

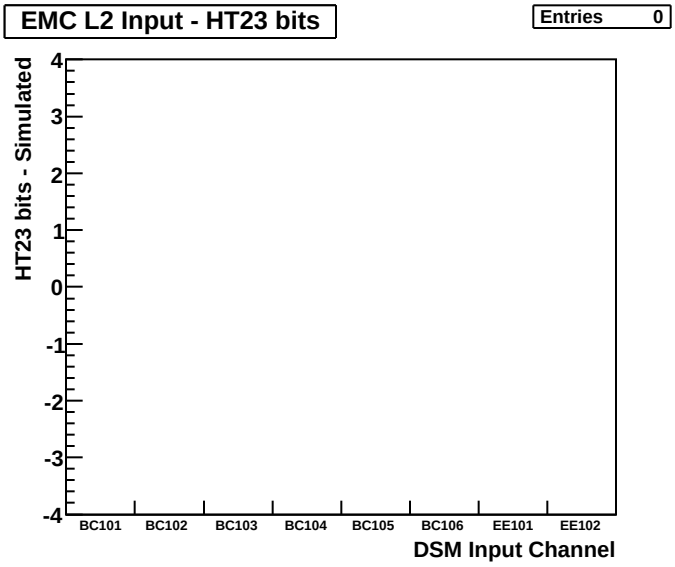

EMC L2 Input - Partial JP Sum
Entries 2668672
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

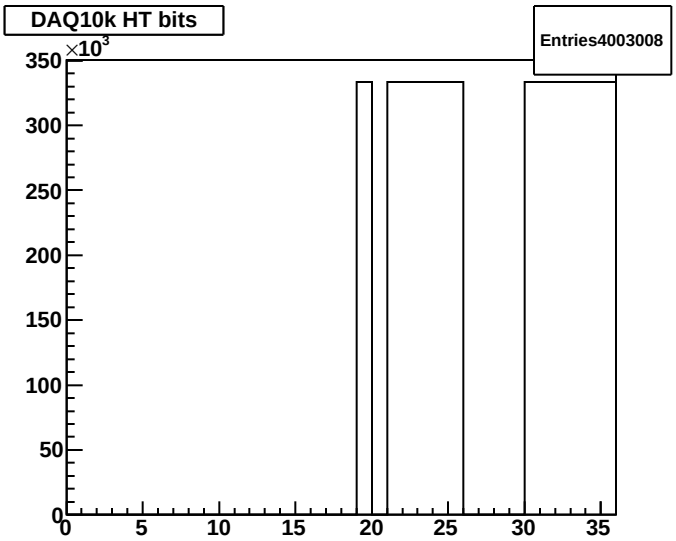

EMC L2 Input - Partial JP Sum
Entries 739
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

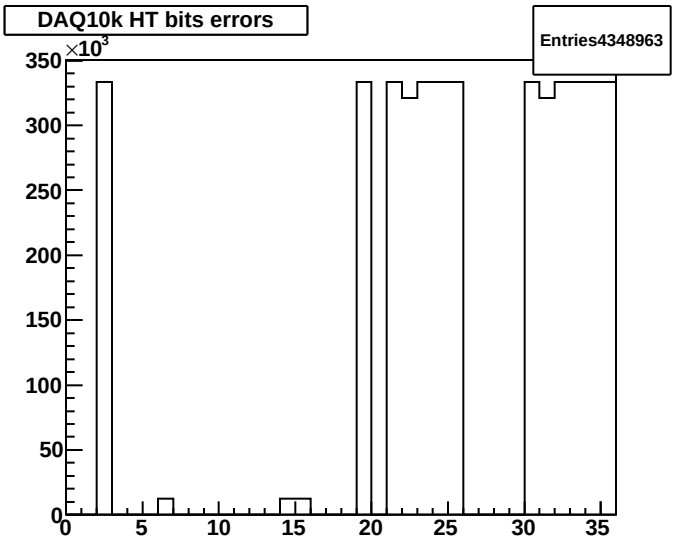

EMC L2 Input - HT01 bits/Partial JP ID
Entries 2668672
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

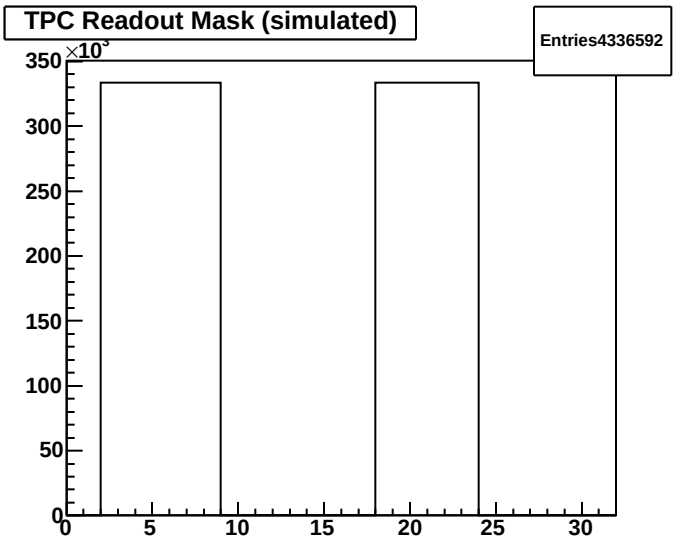

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

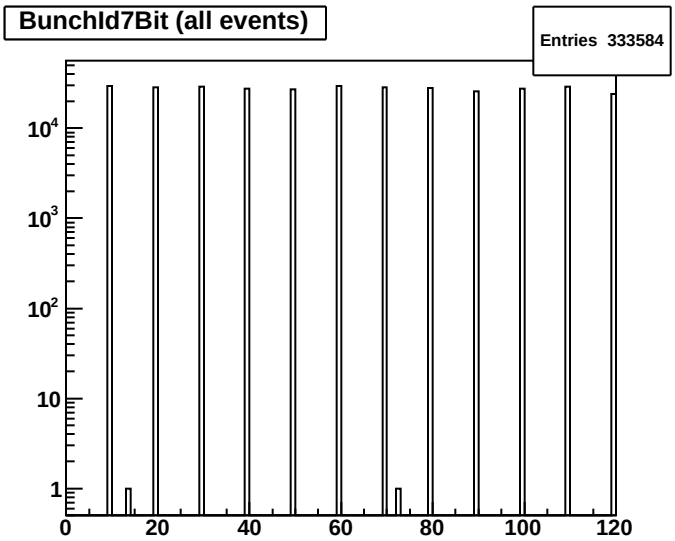

EMC L2 Input - HT23 bits
Entries 2668672
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

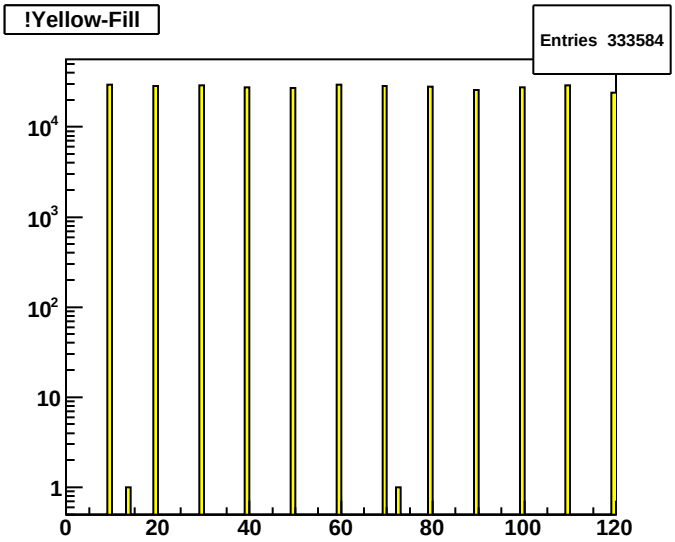

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

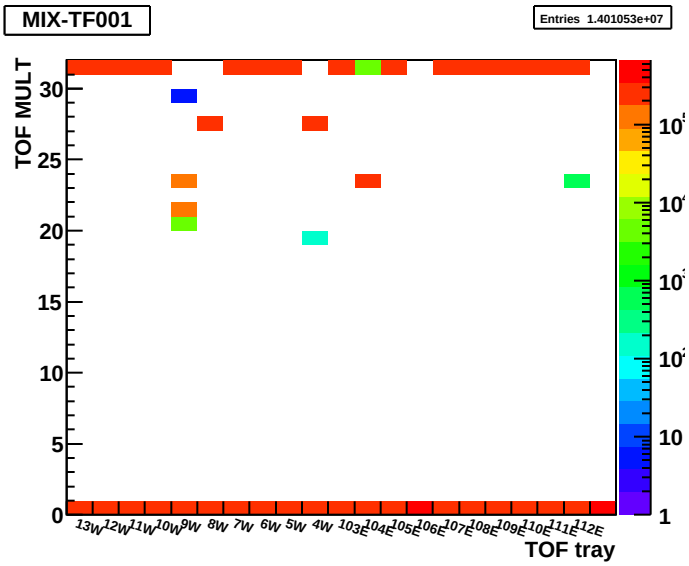

DAQ10k HT bits
Entries4003008
×10^3
350
300
250
200
150
100
50
0
0 5 10 15 20 25 30 35

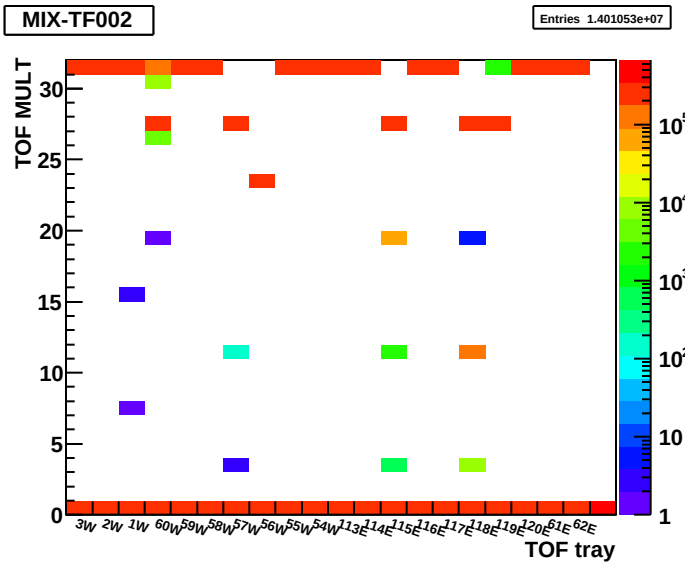

DAQ10k HT bits errors
Entries4348963
×10^3
350
300
250
200
150
100
50
0
0 5 10 15 20 25 30 35

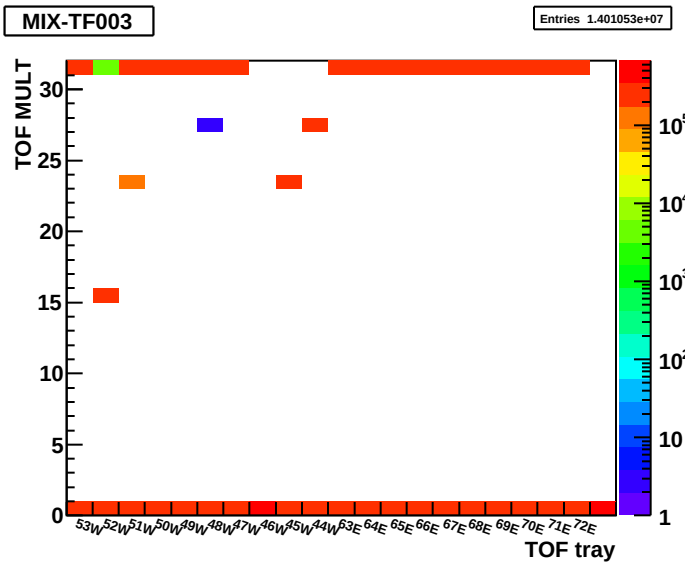

TPC Readout Mask (simulated)
Entries4336592
×10^3
350
300
250
200
150
100
50
0
0 5 10 15 20 25 30

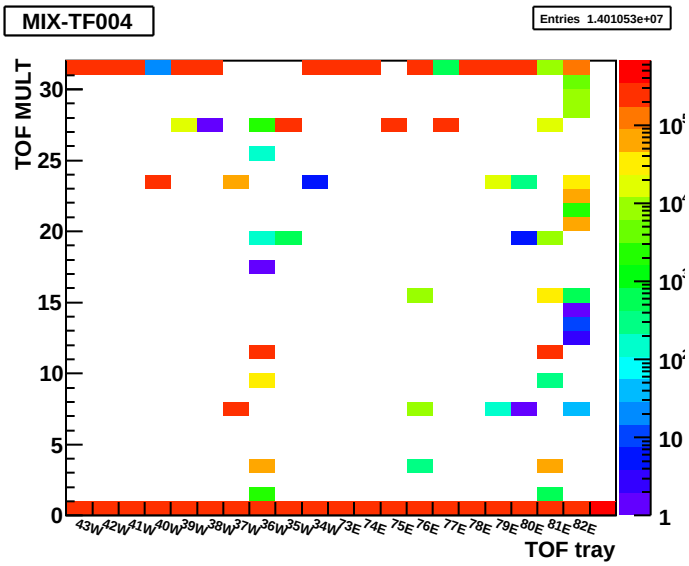

BunchId7Bit (all events)
Entries 333584
10^4
10^3
10^2
10
1
0 20 40 60 80 100 120

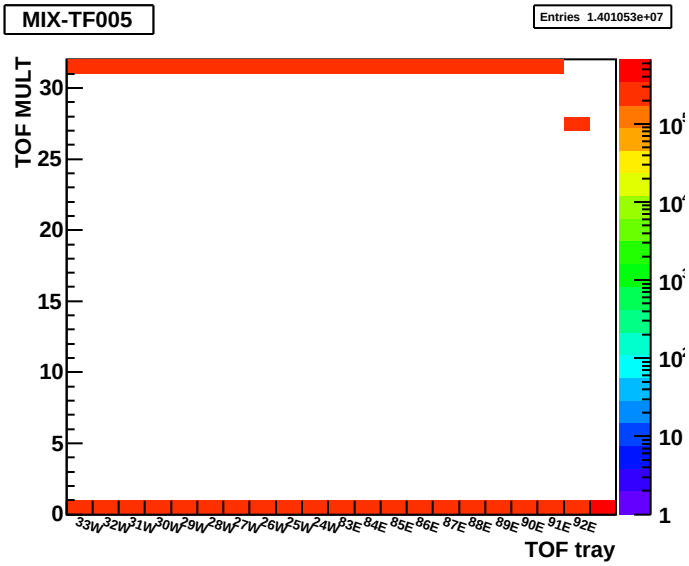

!Yellow-Fill
Entries 333584
10^4
10^3
10^2
10
1
0 20 40 60 80 100 120

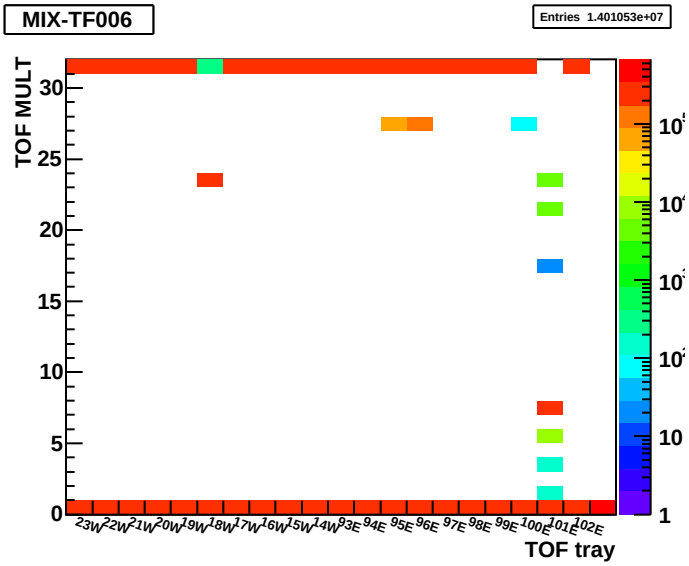

MIX-TF001
Entries 1.401053e+07
TOF MULT
TOF tray

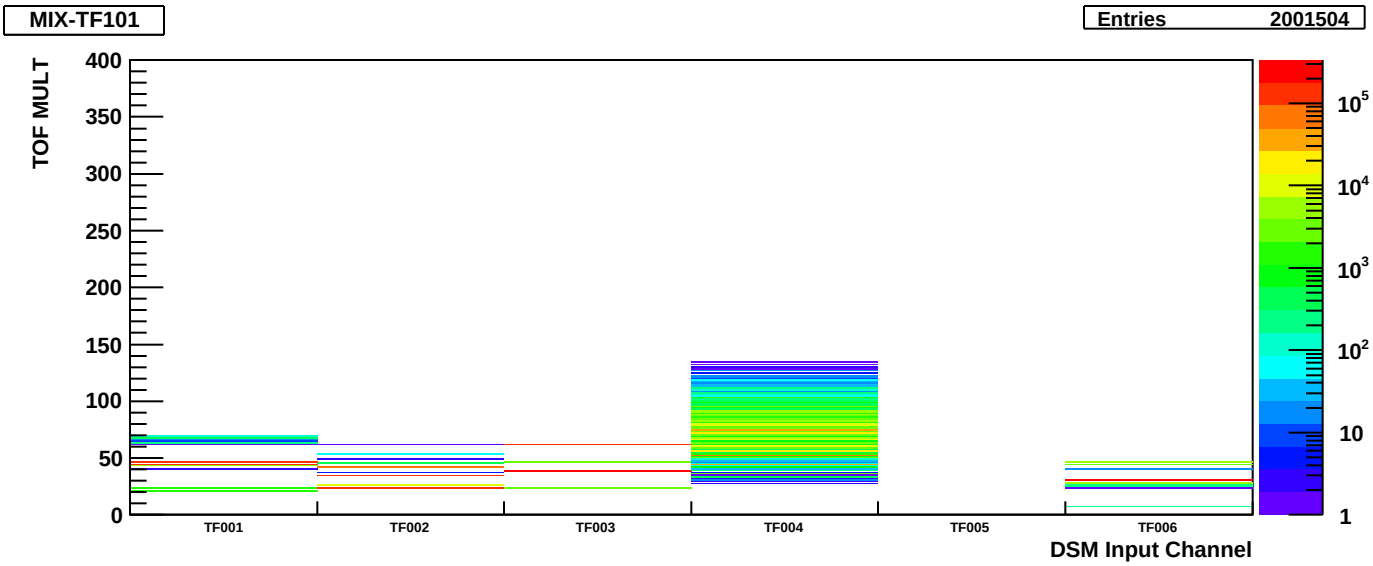

MIX-TF002
Entries 1.401053e+07
TOF MULT
TOF tray

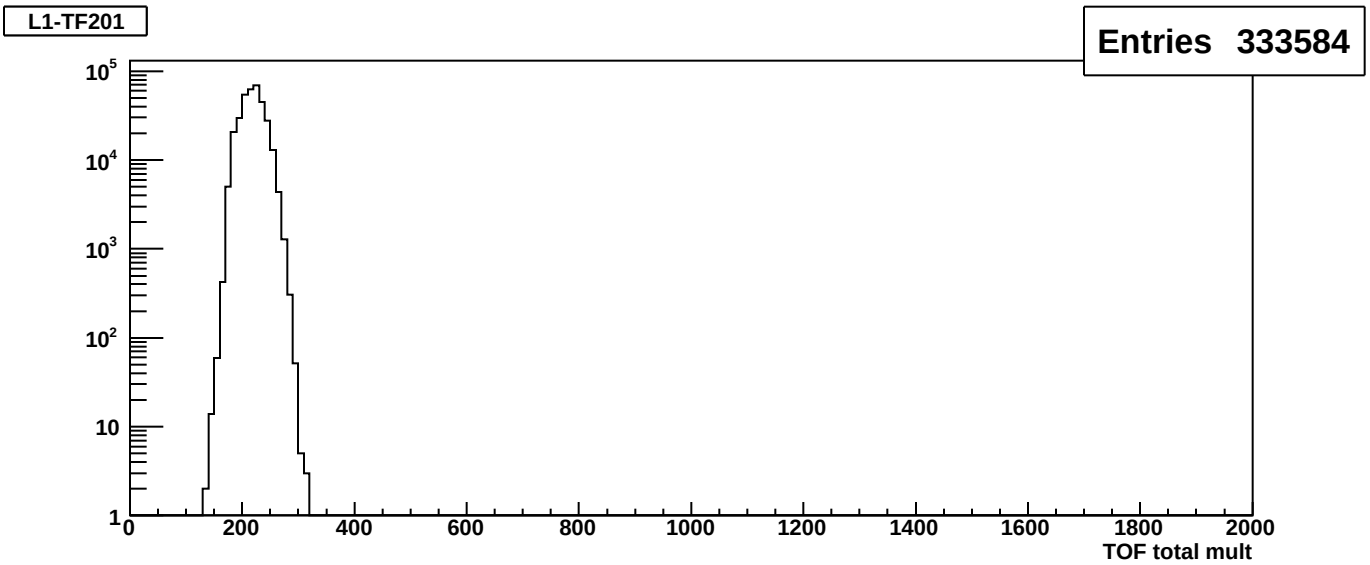

MIX-TF003
Entries 1.401053e+07
TOF MULT
TOF tray

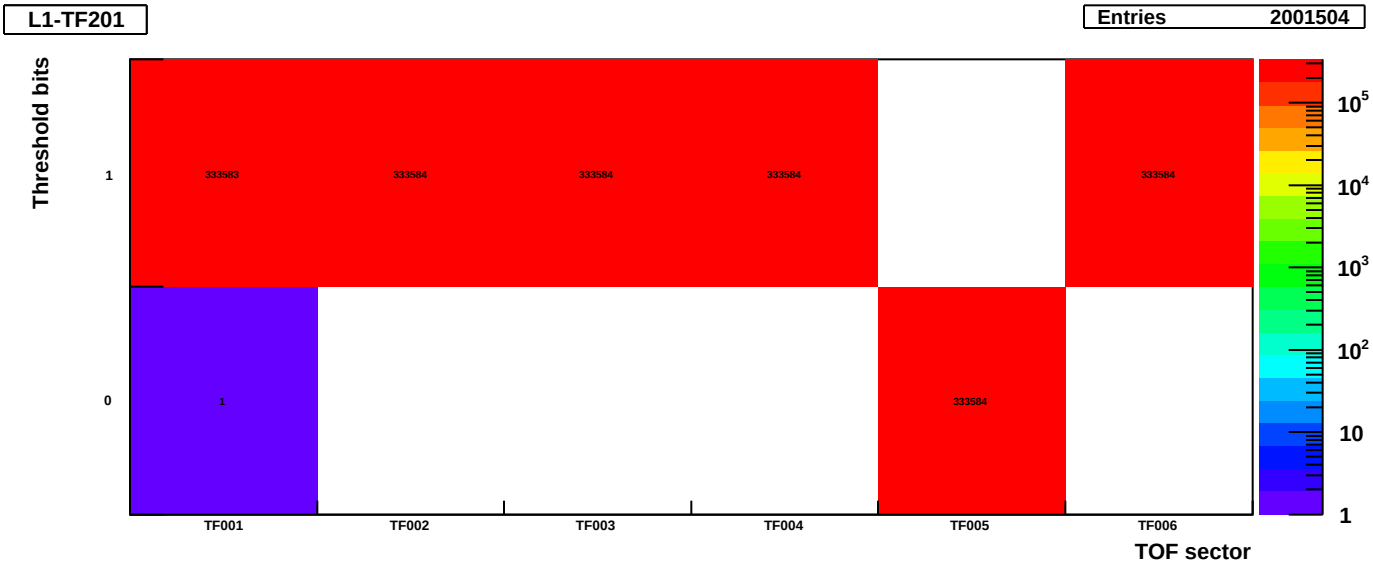

MIX-TF004
Entries 1.401053e+07
TOF MULT
TOF tray

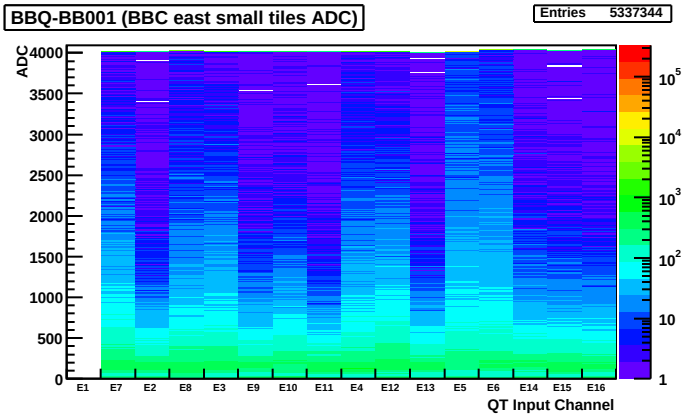

MIX-TF005
Entries 1.401053e+07
TOF MULT
TOF tray

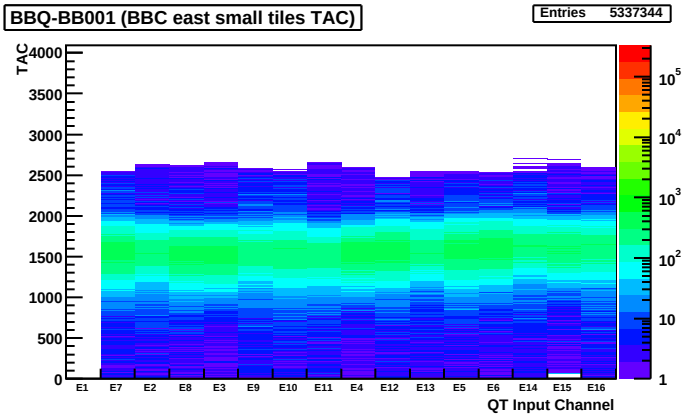

MIX-TF006
Entries 1.401053e+07
TOF MULT
TOF tray

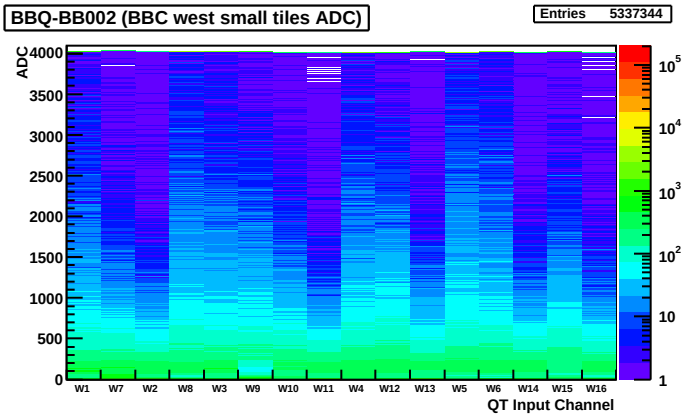

MIX-TF101
Entries 2001504
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^5
10^4
10^3
10^2
10
1

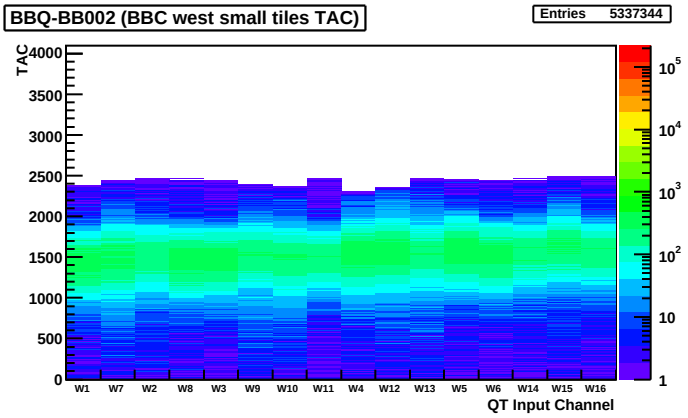

L1-TF201
Entries 333584
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

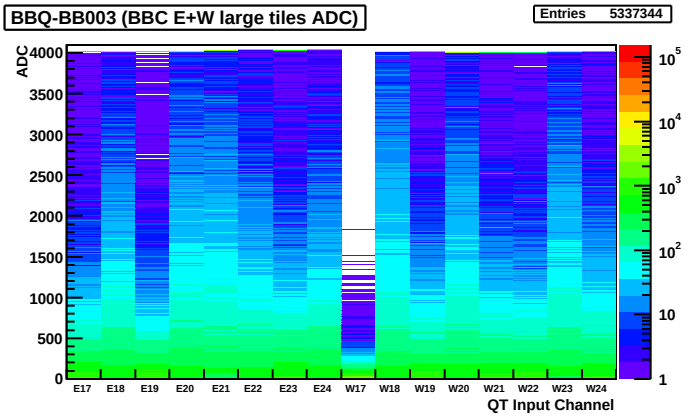

L1-TF201
Entries 2001504
Threshold bits
1
0
333583
333584
333584
333584
333584
1
333584
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^5
10^4
10^3
10^2
10
1

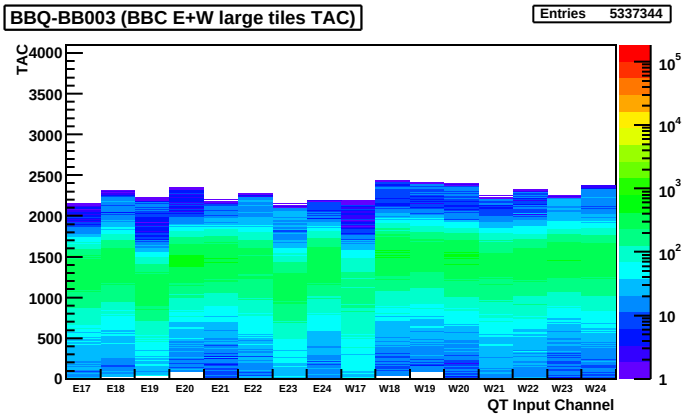

BBQ-BB001 (BBC east small tiles ADC)
Entries 5337344
ADC
QT Input Channel

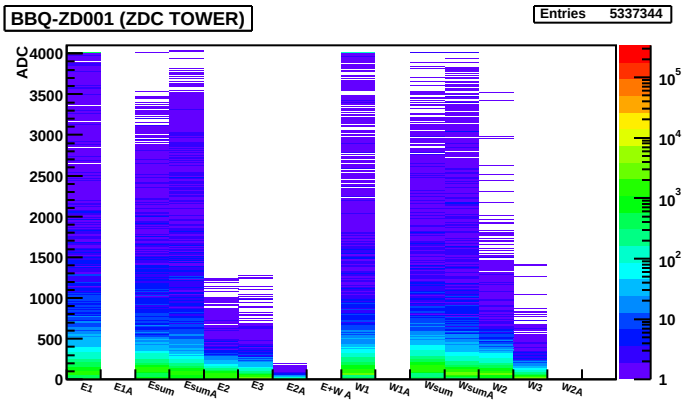

BBQ-BB001 (BBC east small tiles TAC)
Entries 5337344
TAC
QT Input Channel

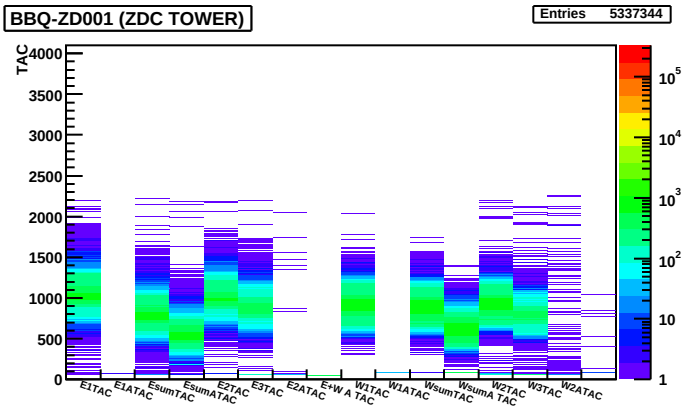

BBQ-BB002 (BBC west small tiles ADC)
Entries 5337344
ADC
QT Input Channel

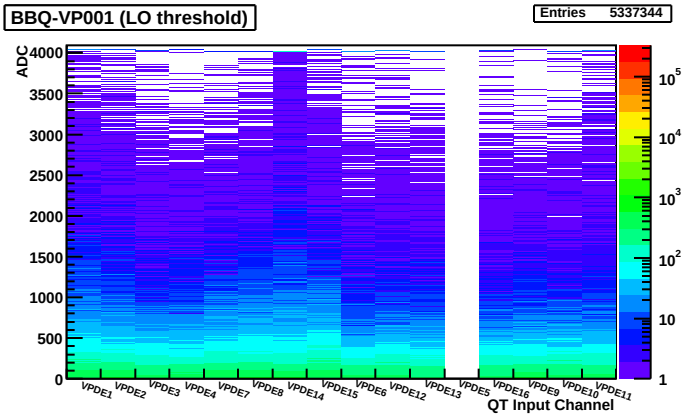

BBQ-BB002 (BBC west small tiles TAC)
Entries 5337344
TAC
QT Input Channel

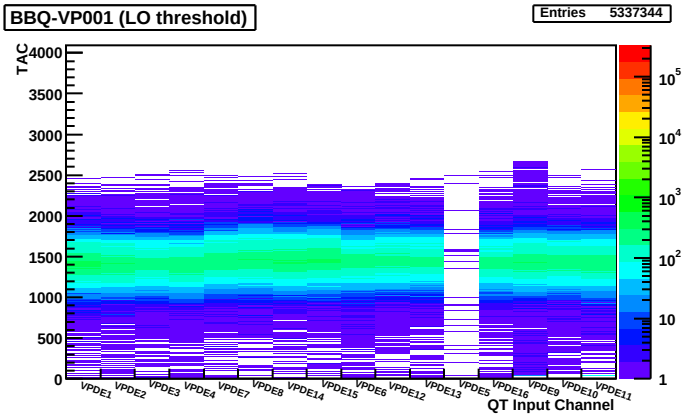

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 5337344
ADC
QT Input Channel

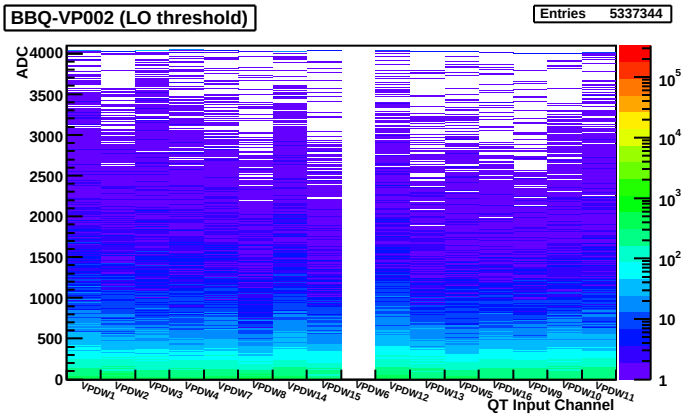

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 5337344
TAC
QT Input Channel

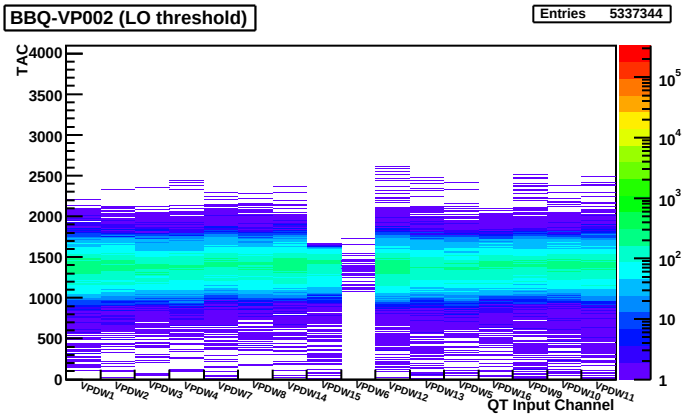

BBQ-ZD001 (ZDC TOWER)
Entries 5337344
ADC

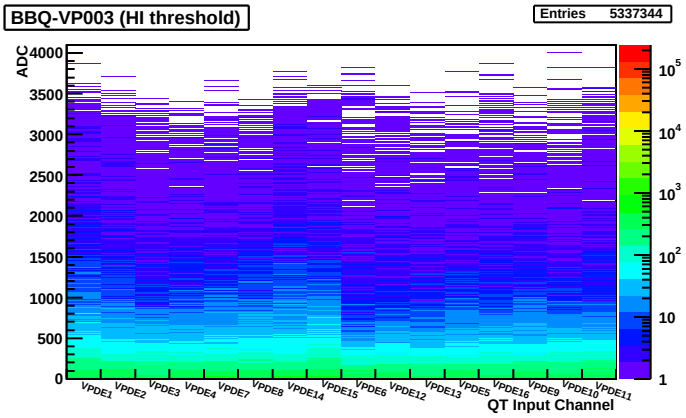

BBQ-ZD001 (ZDC TOWER)
Entries 5337344
TAC

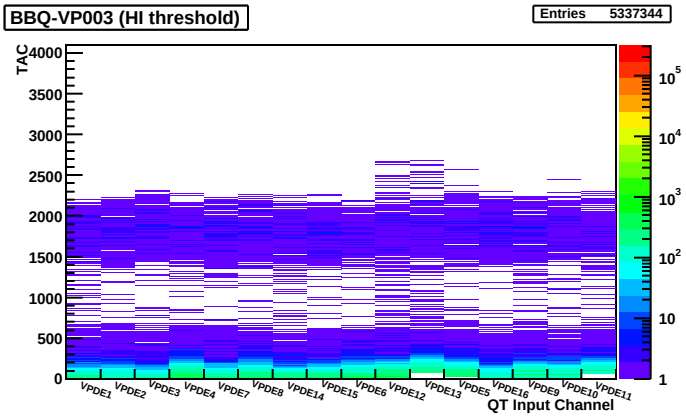

BBQ-VP001 (LO threshold)
Entries 5337344
ADC
QT Input Channel

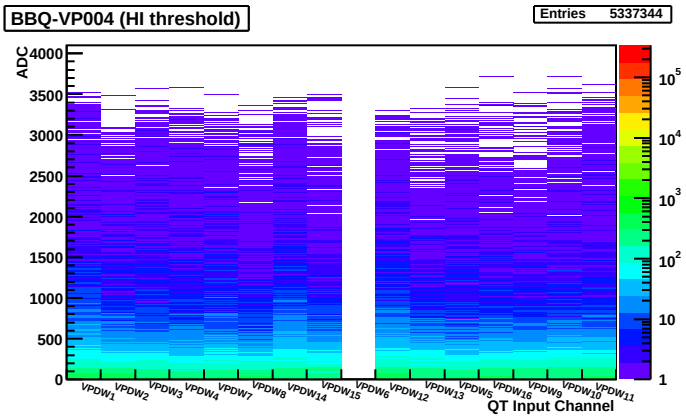

BBQ-VP001 (LO threshold)
Entries 5337344
TAC
QT Input Channel

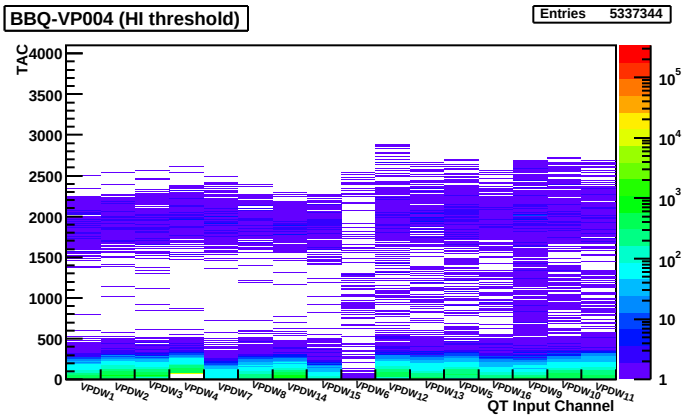

BBQ-VP002 (LO threshold)
Entries 5337344
ADC
QT Input Channel

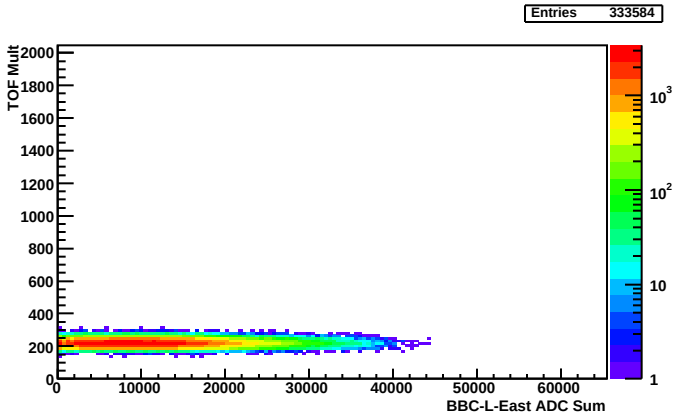

BBQ-VP002 (LO threshold)
Entries 5337344
TAC
QT Input Channel

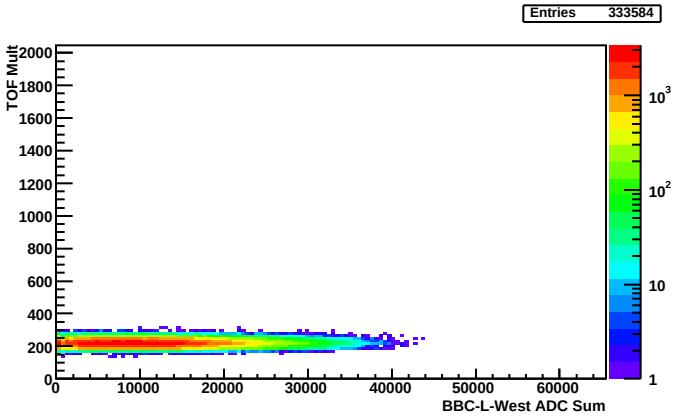

BBQ-VP003 (HI threshold)
Entries 5337344
ADC
QT Input Channel

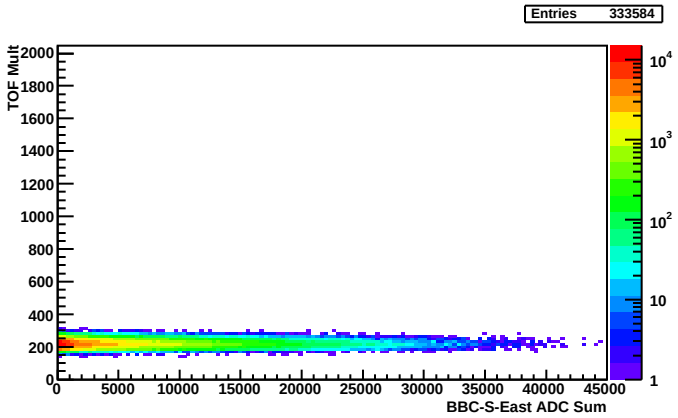

BBQ-VP003 (HI threshold)
Entries 5337344
TAC
QT Input Channel

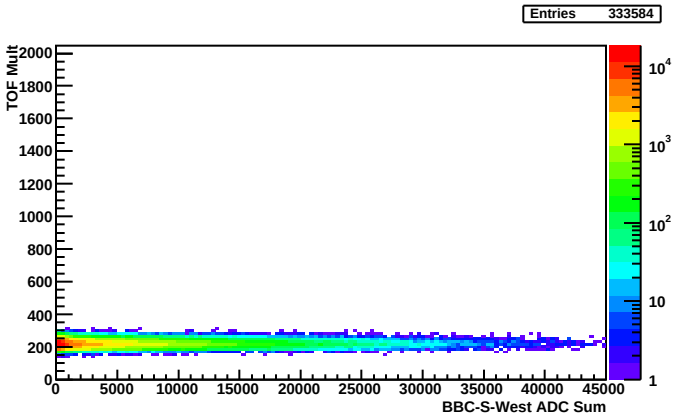

BBQ-VP004 (HI threshold)
Entries 5337344
ADC
QT Input Channel

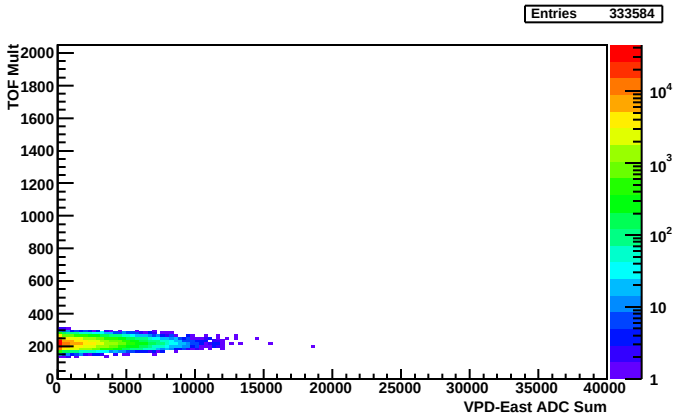

BBQ-VP004 (HI threshold)
Entries 5337344
TAC
QT Input Channel

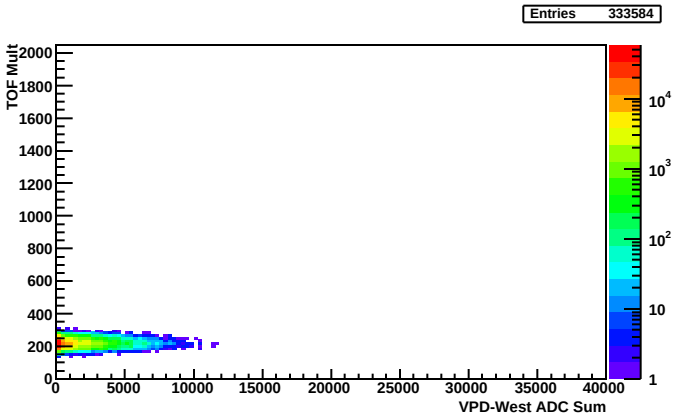

Entries 333584
TOF Mult
BBC-L-East ADC Sum

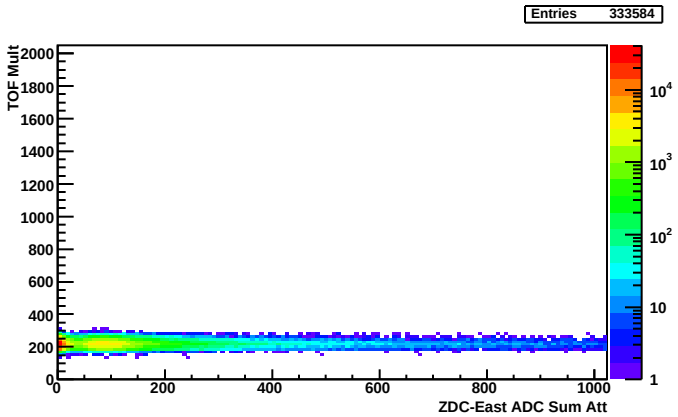

Entries 333584
TOF Mult
BBC-L-West ADC Sum

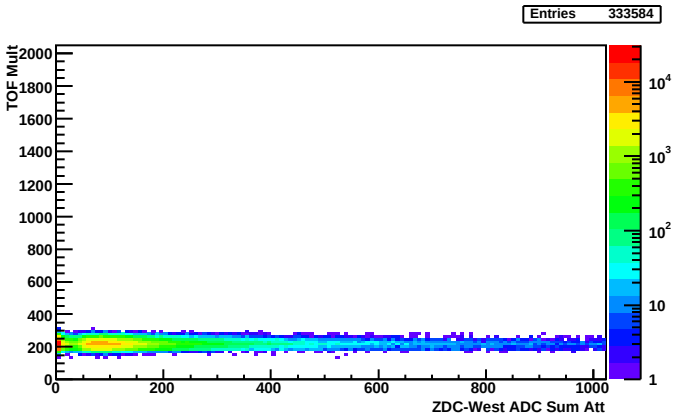

Entries 333584
TOF Mult
BBC-S-East ADC Sum

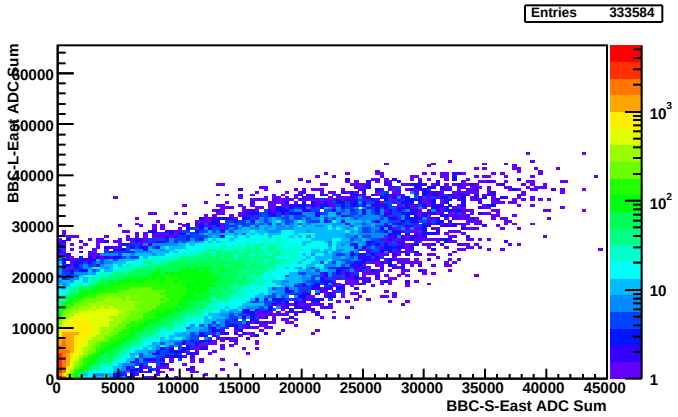

Entries 333584
TOF Mult
BBC-S-West ADC Sum

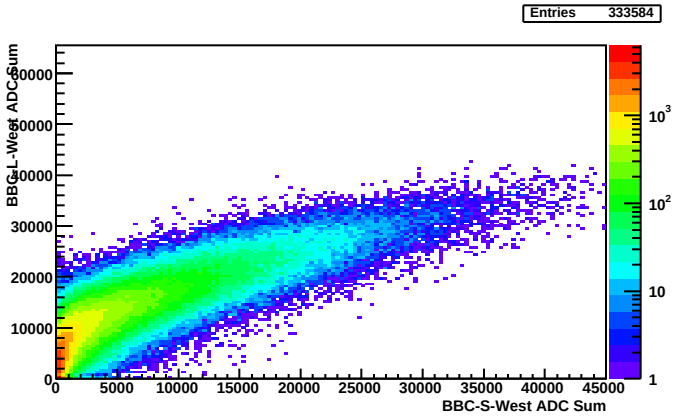

Entries 333584
TOF Mult
VPD-East ADC Sum

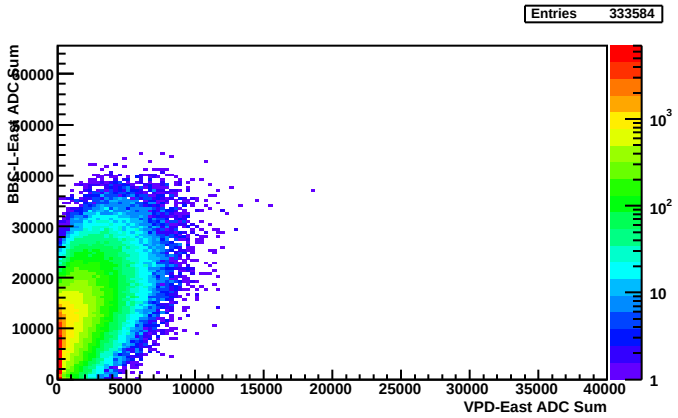

Entries 333584
TOF Mult
VPD-West ADC Sum

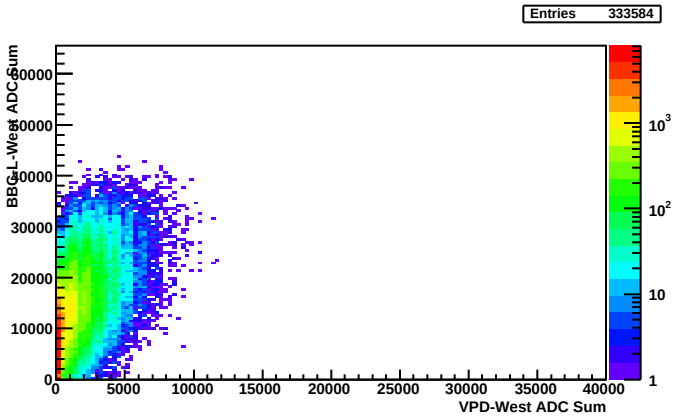

Entries 333584
TOF Mult
ZDC-East ADC Sum Att

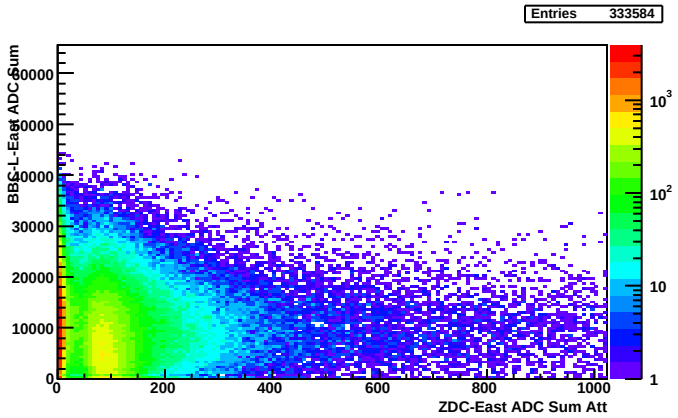

Entries 333584
TOF Mult
ZDC-West ADC Sum Att

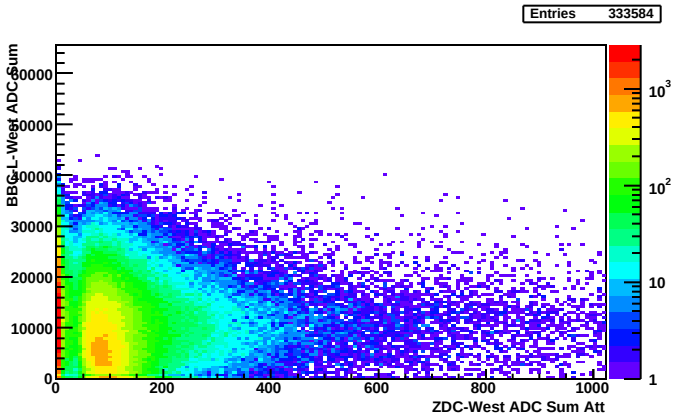

Entries 333584
BBC-L-East ADC Sum
BBC-S-East ADC Sum


Entries 333584
BBC-L-West ADC Sum
BBC-S-West ADC Sum


Entries 333584
BBC-L-East ADC Sum
VPD-East ADC Sum


Entries 333584
BBC-L-West ADC Sum
VPD-West ADC Sum


Entries 333584
BBC-L-East ADC Sum
ZDC-East ADC Sum Att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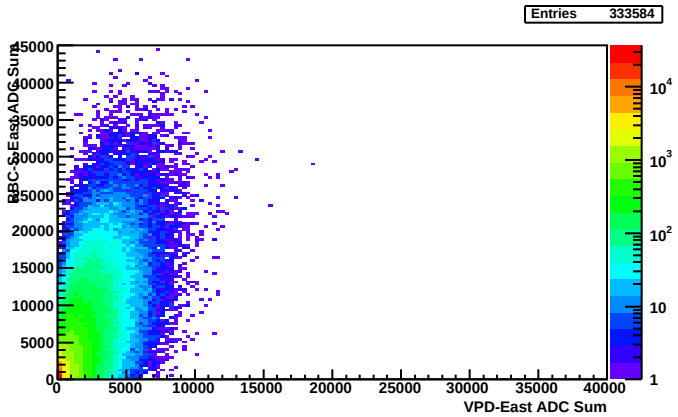
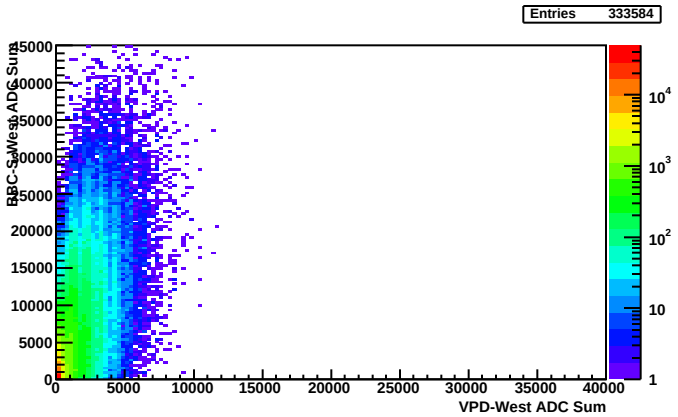
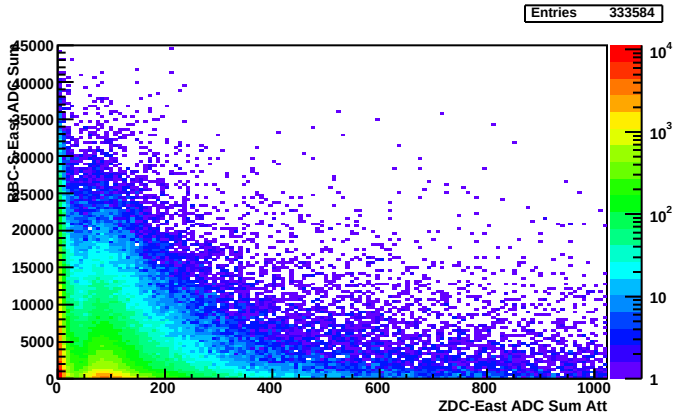
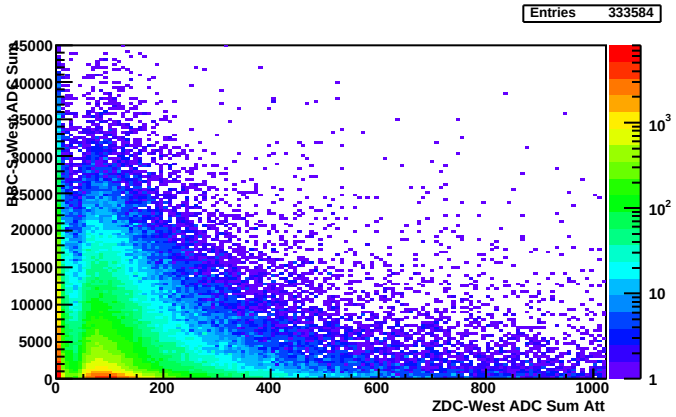
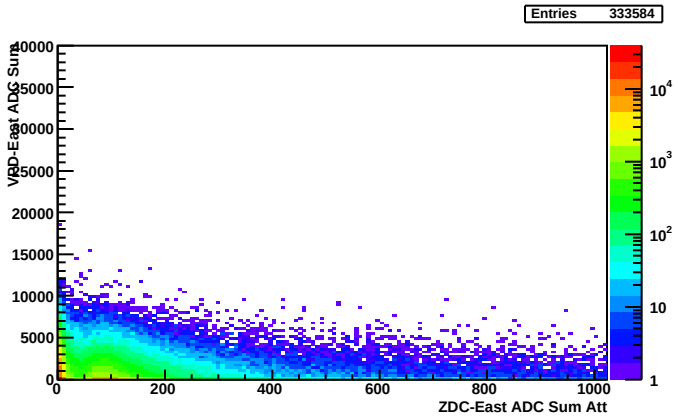
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

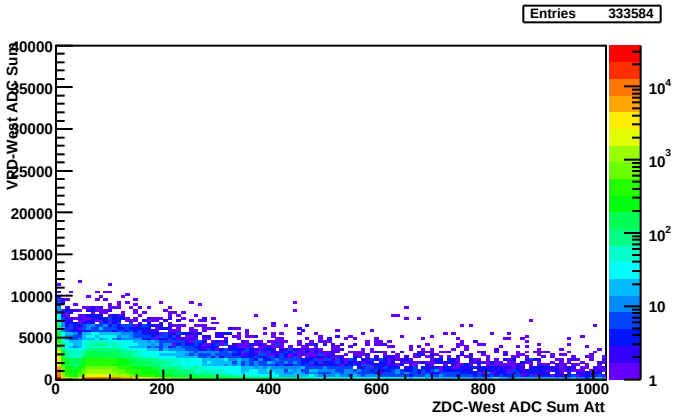

Entries 333584
BBC-S-East ADC Sum
VPD-East ADC Sum

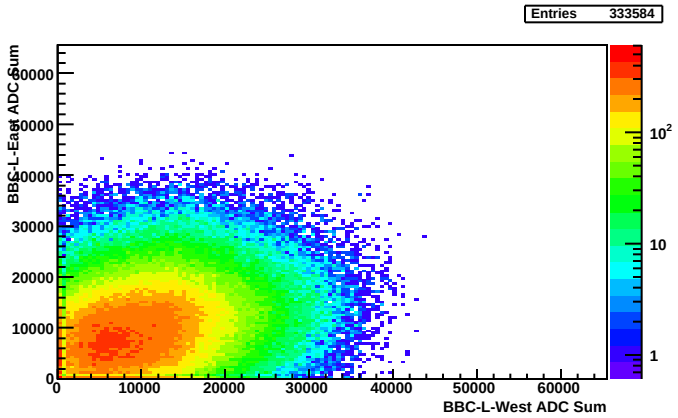

Entries 333584
BBC-S-West ADC Sum
VPD-West ADC Sum

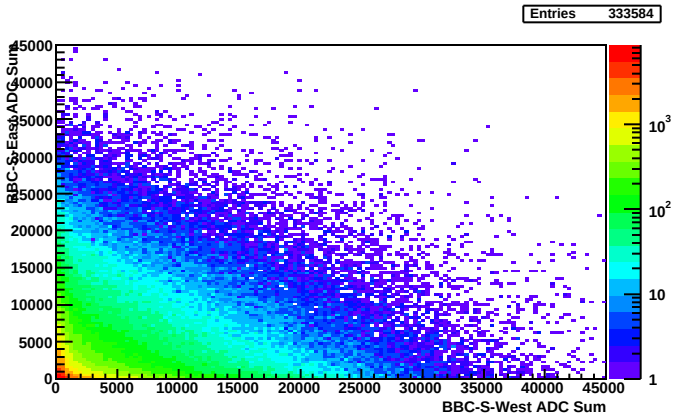

Entries 333584
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

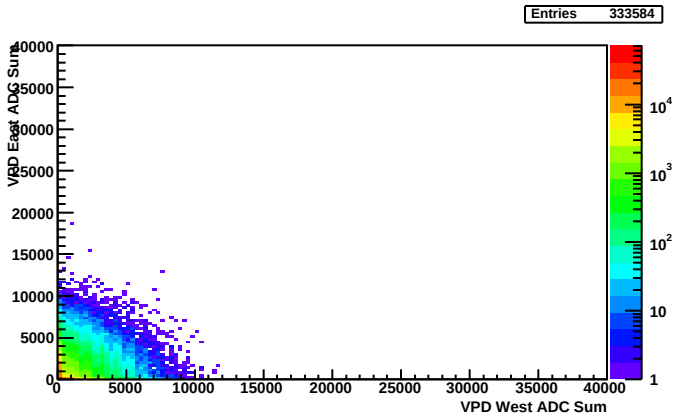

Entries 333584
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

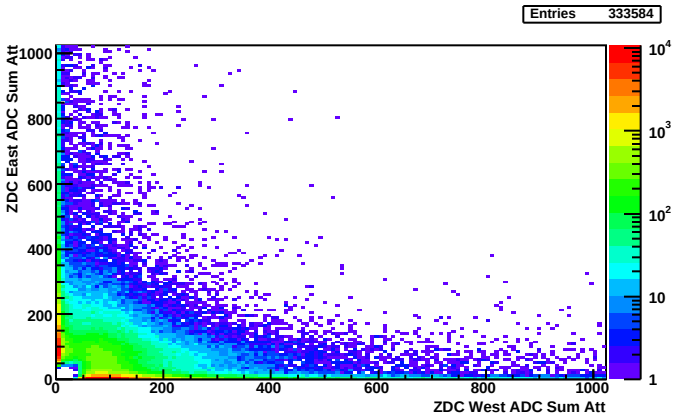

Entries 333584
VPD-East ADC Sum
ZDC-East ADC Sum Att

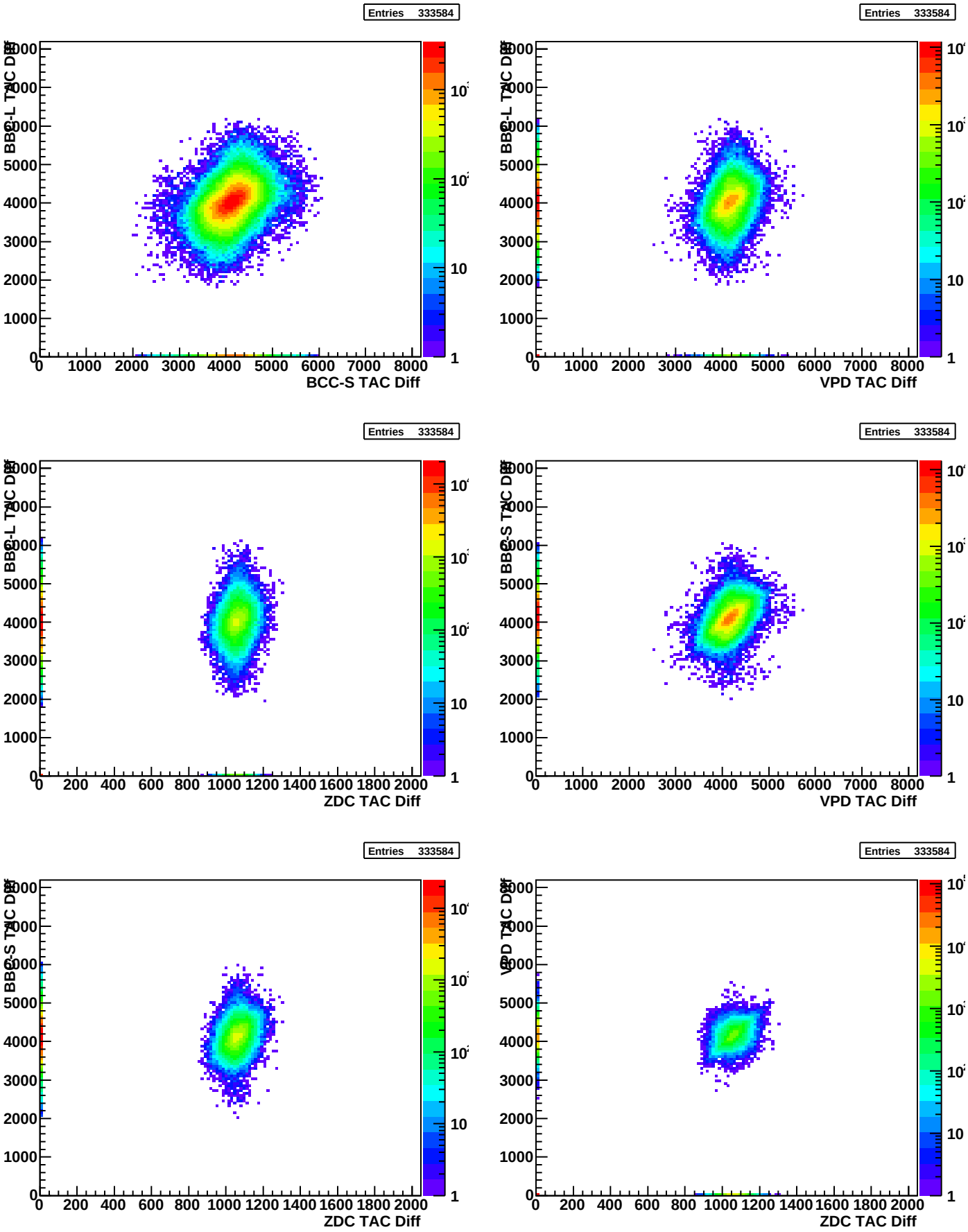

Entries 333584
VPD-West ADC Sum
ZDC-West ADC Sum Att

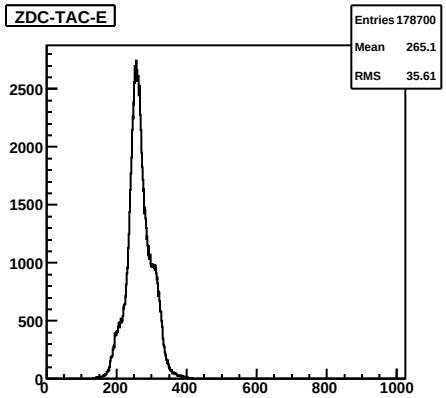

Entries 333584
BBC-L-East ADC Sum
BBC-L-West ADC Sum

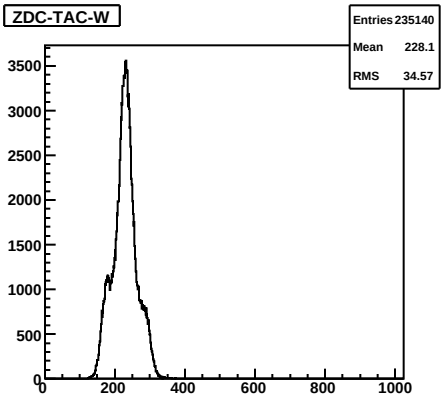

Entries 333584
BBC-S-East ADC Sum
BBC-S-West ADC Sum

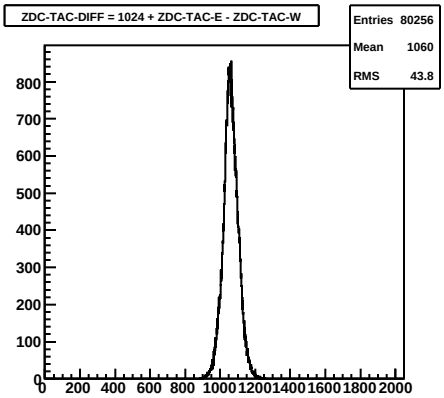

Entries 333584
VPD East ADC Sum
VPD West ADC Sum

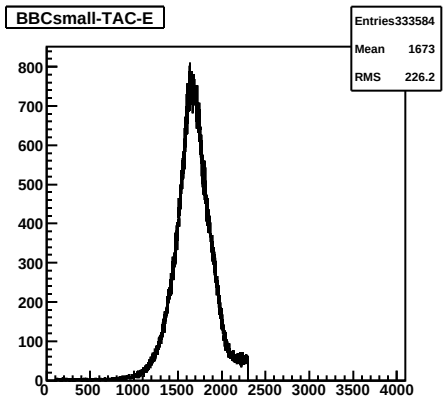

Entries 333584
ZDC East ADC Sum Att
ZDC West ADC Sum Att

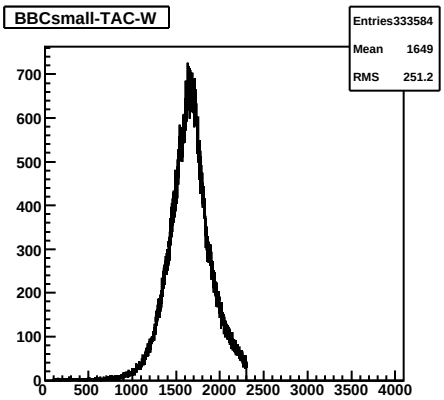

Entries 333584
BBC-L TAC Diff
BCC-S TAC Diff
Entries 333584
BBC-L TAC Diff
VPD TAC Diff
Entries 333584
BBC-L TAC Diff
ZDC TAC Diff
Entries 333584
BBC-S TAC Diff
VPD TAC Diff
Entries 333584
BBC-S TAC Diff
ZDC TAC Diff
Entries 333584
VPD TAC Diff
ZDC TAC Diff

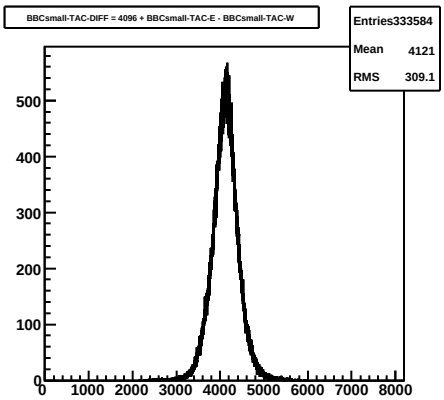

ZDC-TAC-E
Entries 178700
Mean 265.1
RMS 35.61

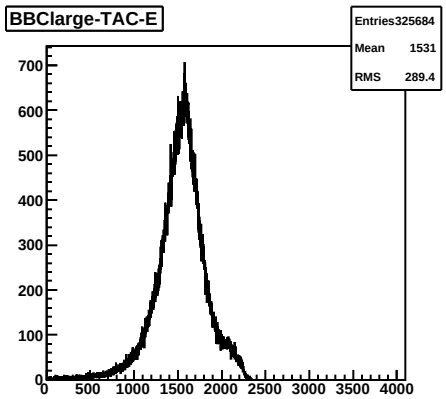

ZDC-TAC-W
Entries 235140
Mean 228.1
RMS 34.57

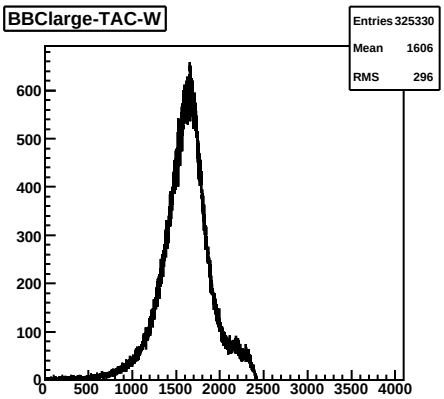

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 80256
Mean 1060
RMS 43.8

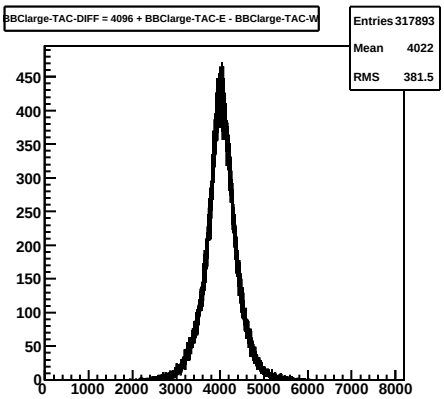

BBCsmall-TAC-E
Entries 333584
Mean 1673
RMS 226.2

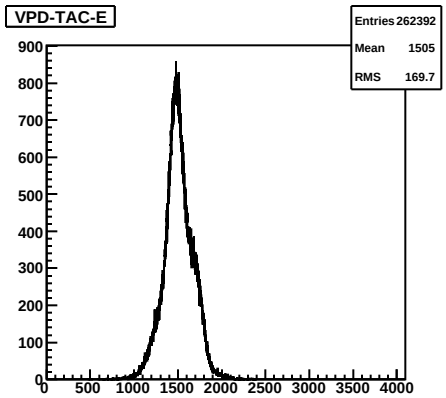

BBCsmall-TAC-W
Entries 333584
Mean 1649
RMS 251.2

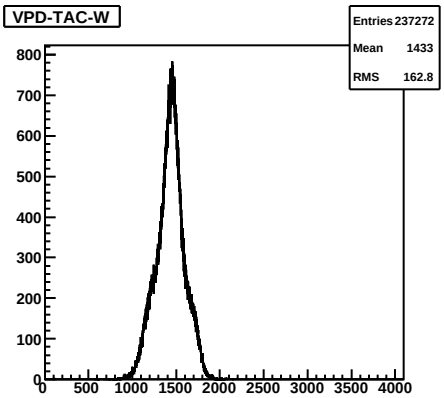

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 333584
Mean 4121
RMS 309.1

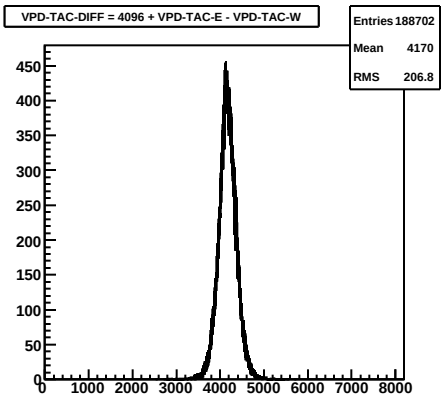

BBClarge-TAC-E
Entries 325684
Mean 1531
RMS 289.4

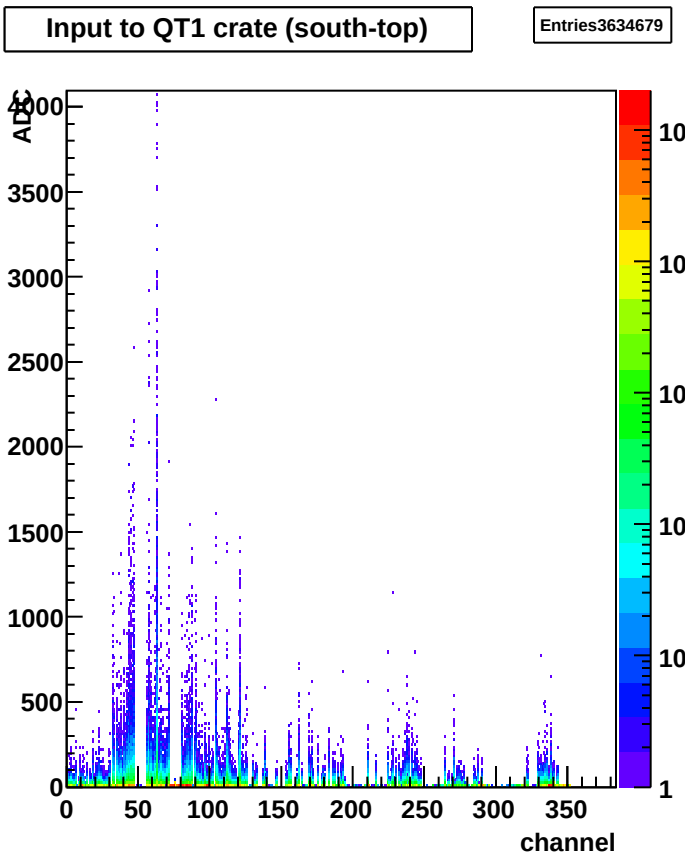

BBClarge-TAC-W
Entries 325330
Mean 1606
RMS 296

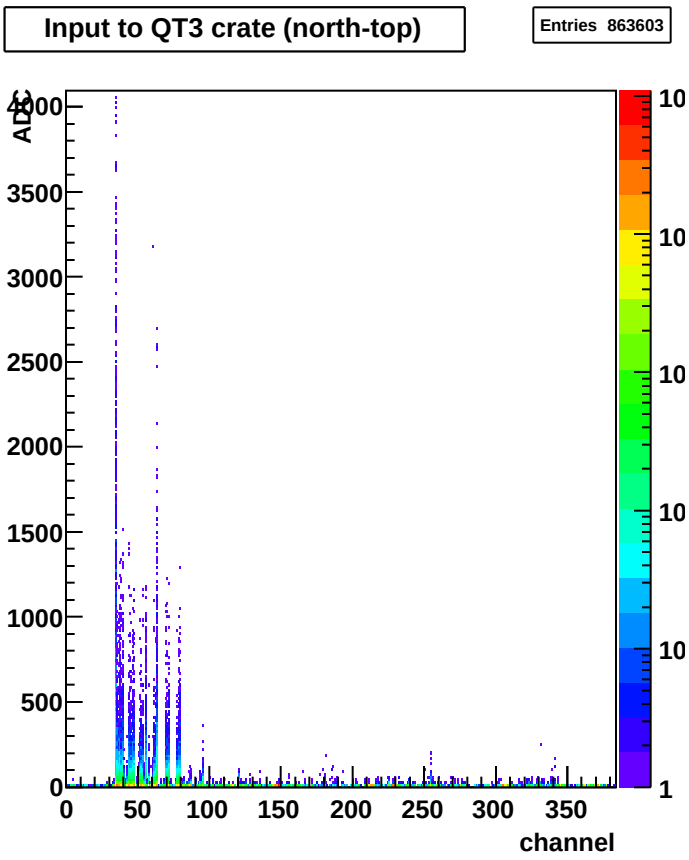

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 317893
Mean 4022
RMS 381.5

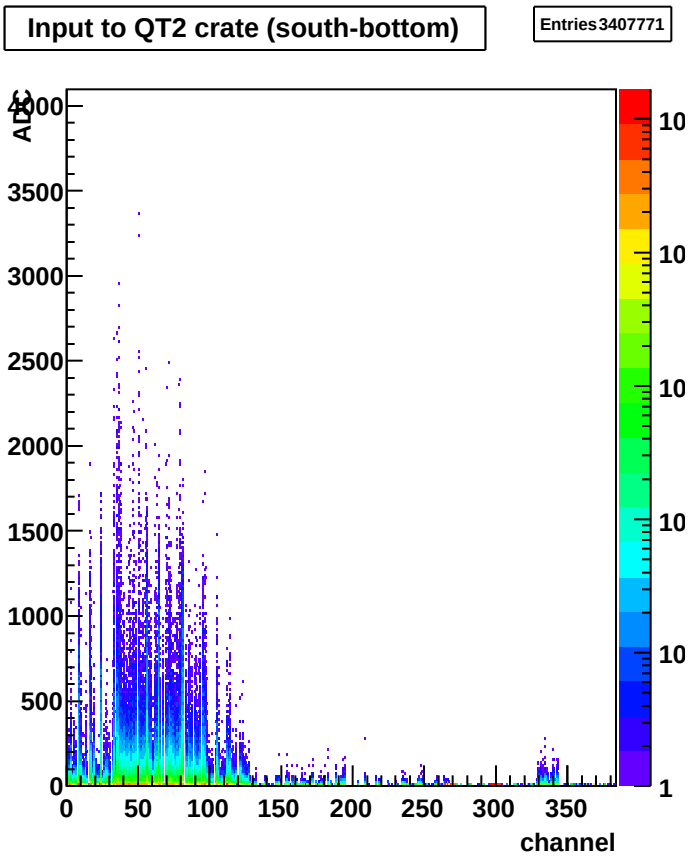

VPD-TAC-E
Entries 262392
Mean 1505
RMS 169.7

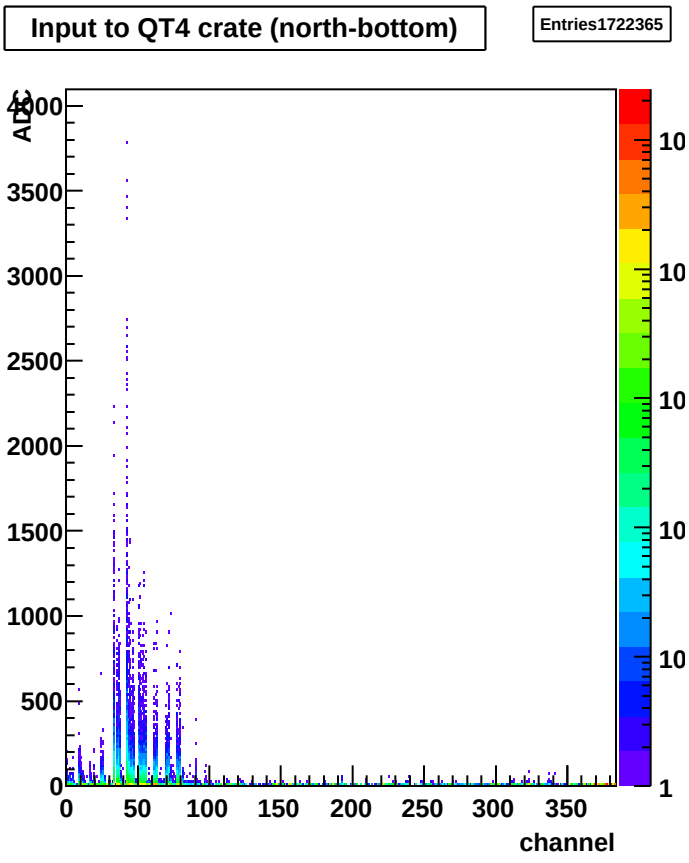

VPD-TAC-W
Entries 237272
Mean 1433
RMS 162.8

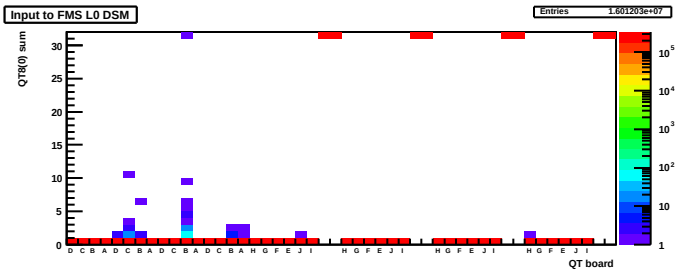

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 188702
Mean 4170
RMS 206.8

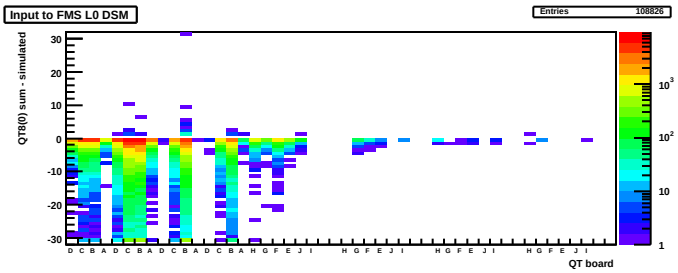

Input to QT1 crate (south-top)
Entries3634679
ADC
channel

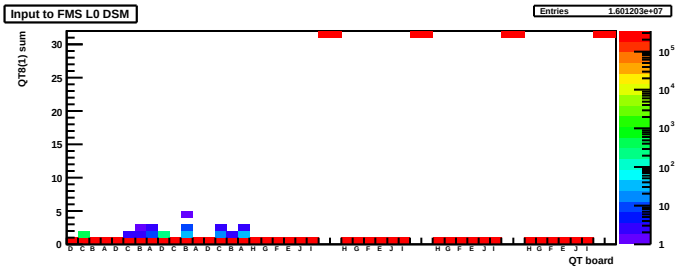

Input to QT3 crate (north-top)
Entries 863603
ADC
channel

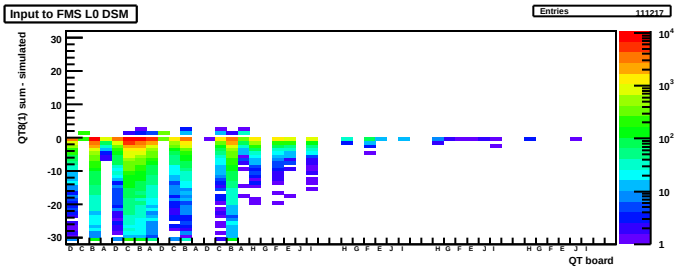

Input to QT2 crate (south-bottom)
Entries3407771
ADC
channel

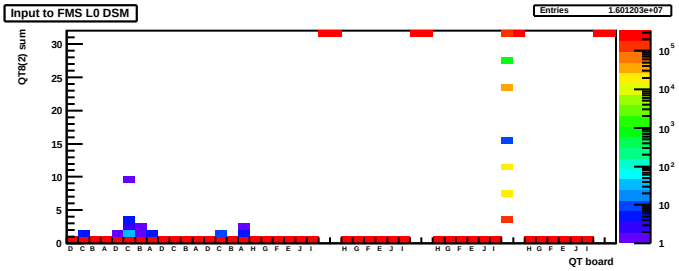

Input to QT4 crate (north-bottom)
Entries1722365
ADC
channel

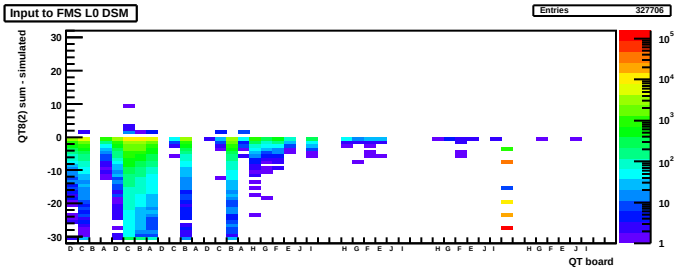

Input to FMS L0 DSM
Entries 1.601203e+07
QT8(0) sum
QT board

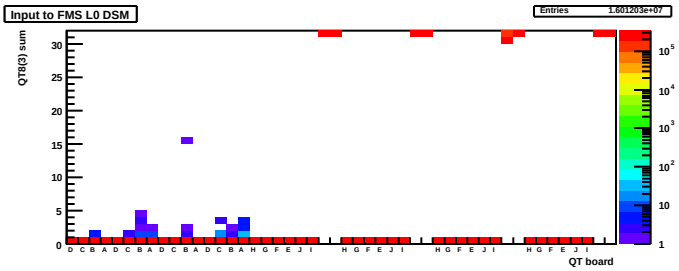

Input to FMS L0 DSM
Entries 108826
QT8(0) sum - simulated
QT board

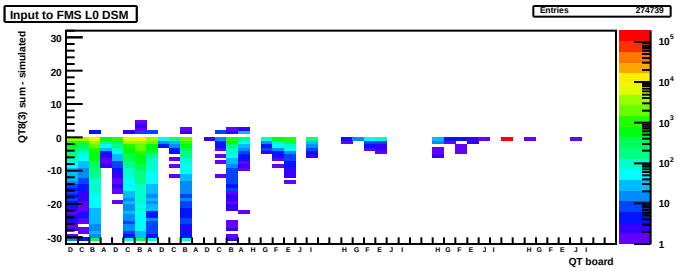

Input to FMS L0 DSM
Entries 1.601203e+07
QT8(1) sum
QT board

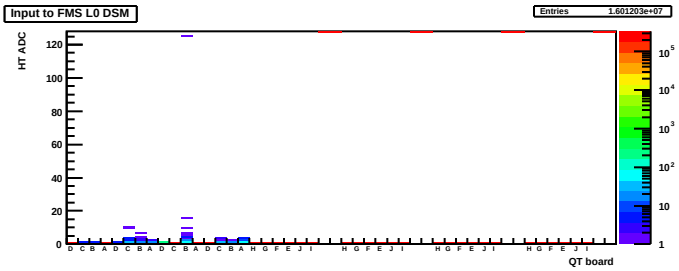

Input to FMS L0 DSM
Entries 111217
QT8(1) sum - simulated
QT board

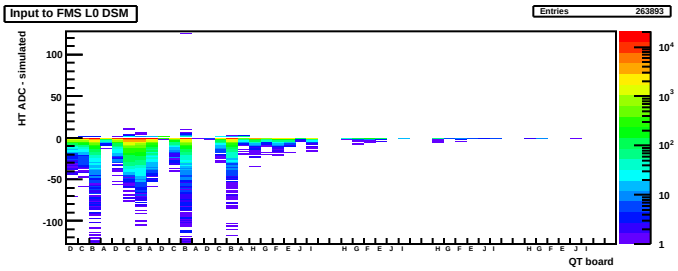

Input to FMS L0 DSM
Entries 1.601203e+07
QT8(2) sum
QT board

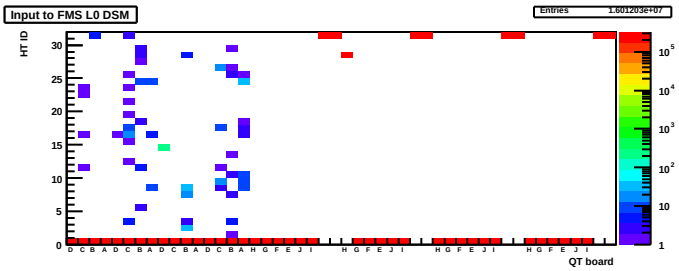

Input to FMS L0 DSM
Entries 327706
QT8(2) sum - simulated
QT board

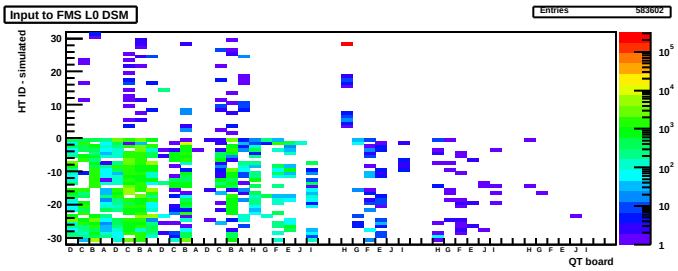

Input to FMS L0 DSM
Entries 1.601203e+07
QT8(3) sum
QT board

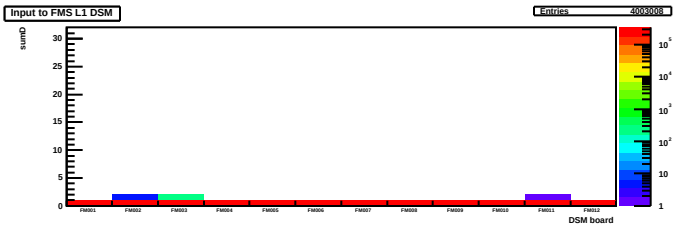

Input to FMS L0 DSM
Entries 274739
QT8(3) sum - simulated
QT board

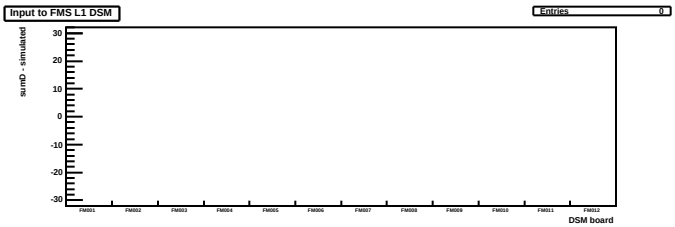

Input to FMS L0 DSM
Entries 1.601203e+07
HT ADC
QT board

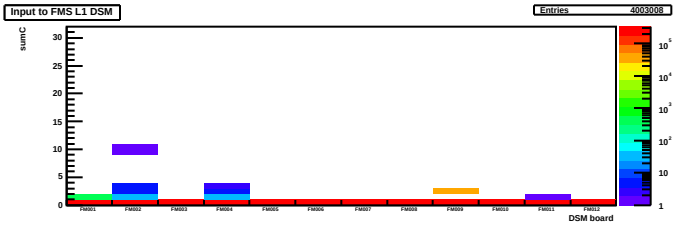

Input to FMS L0 DSM
Entries 263893
HT ADC - simulated
QT board

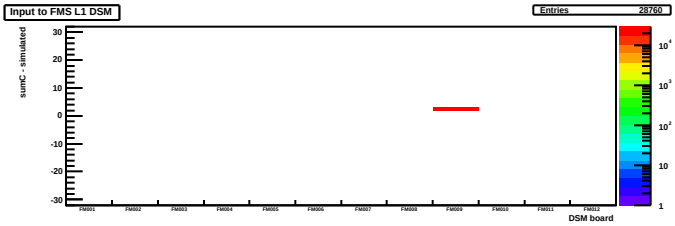

Input to FMS L0 DSM
Entries 1.601203e+07
HT ID
QT board

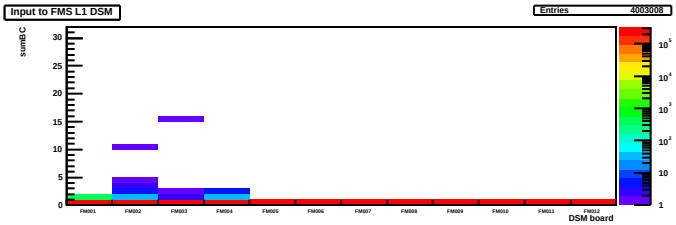

Input to FMS L0 DSM
Entries 583602
HT ID - simulated
QT board

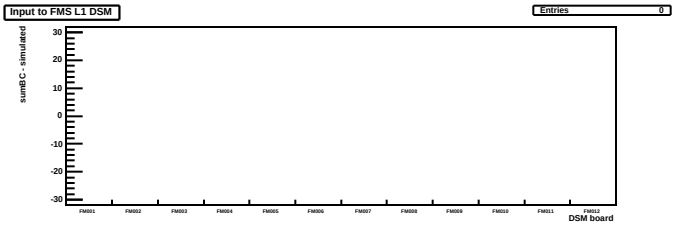

Input to FMS L1 DSM
Entries 4003008
sumD
DSM board

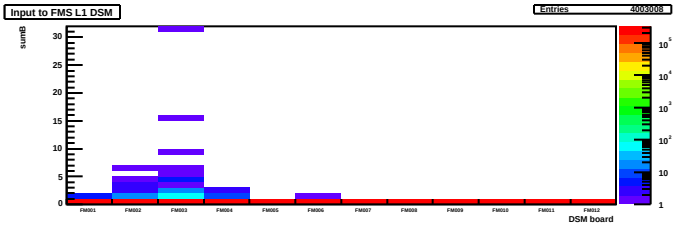

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

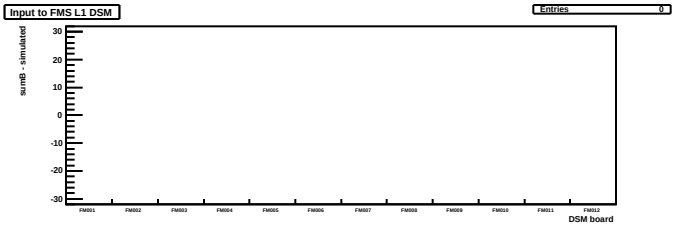

Input to FMS L1 DSM
Entries 4003008
sumC
DSM board

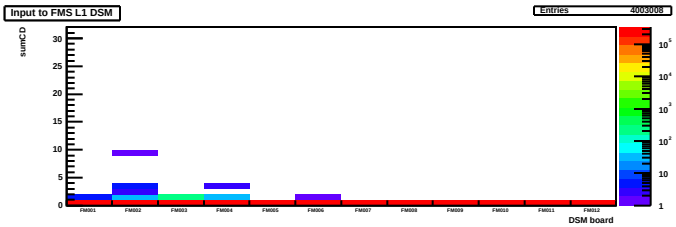

Input to FMS L1 DSM
Entries 28760
sumC - simulated
DSM board

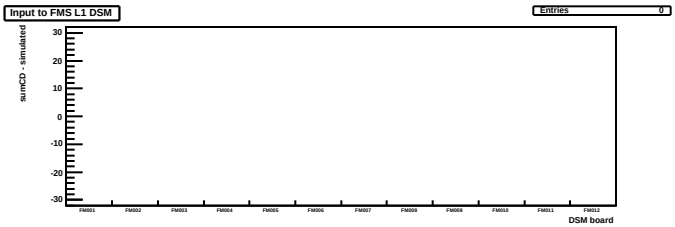

Input to FMS L1 DSM
Entries 4003008
sumBC
DSM board

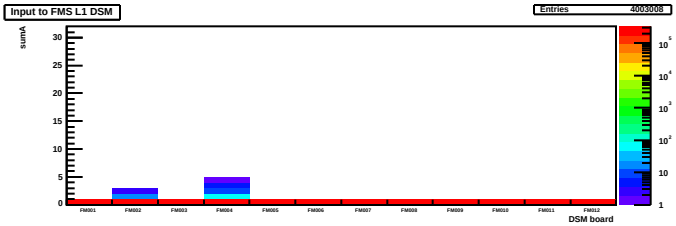

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

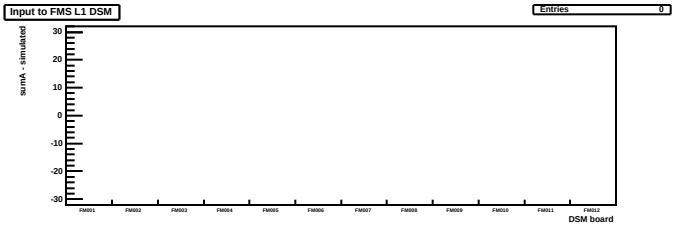

Input to FMS L1 DSM
Entries 4003008
sumB
DSM board

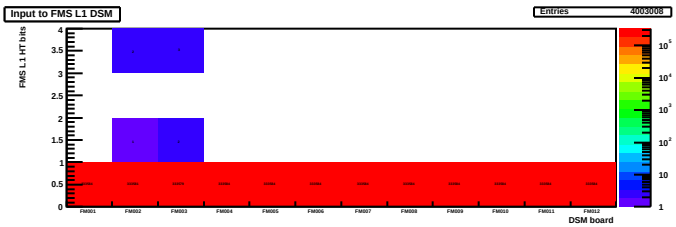

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

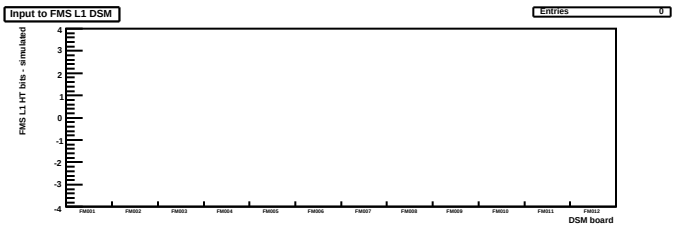

Input to FMS L1 DSM
Entries 4003008
sumCD
DSM board

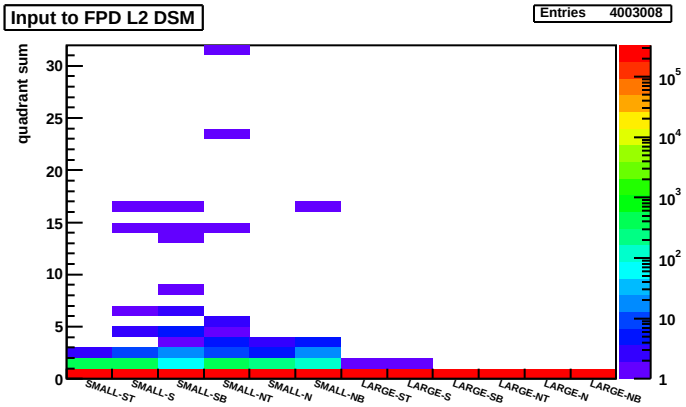

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

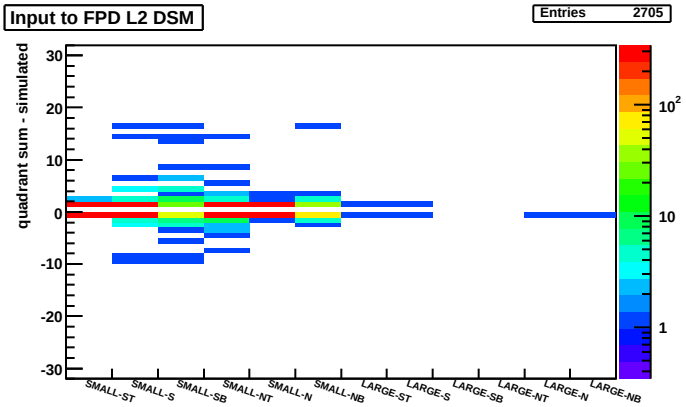

Input to FMS L1 DSM
Entries 4003008
sumA
DSM board

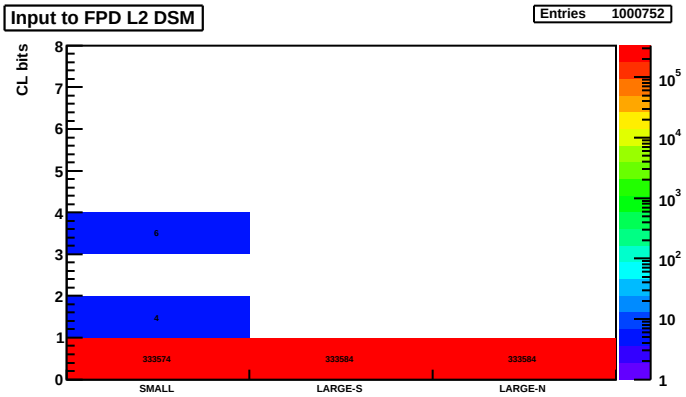

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

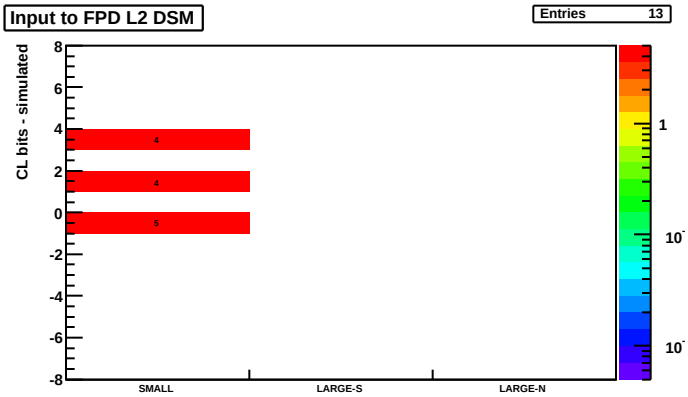

Input to FMS L1 DSM
Entries 4003008
FMS L1 HT bits
DSM board

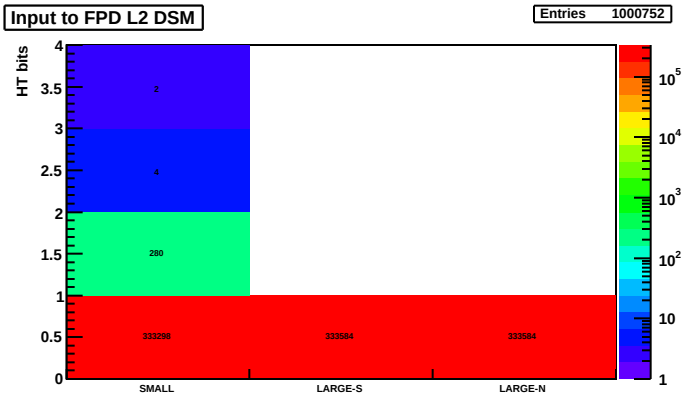

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

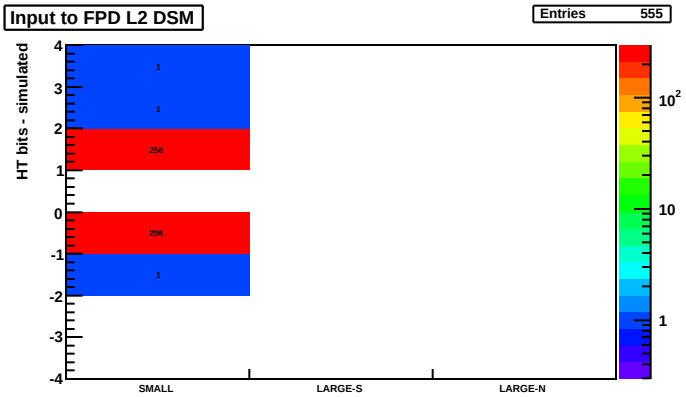

Input to FPD L2 DSM
Entries 4003008
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

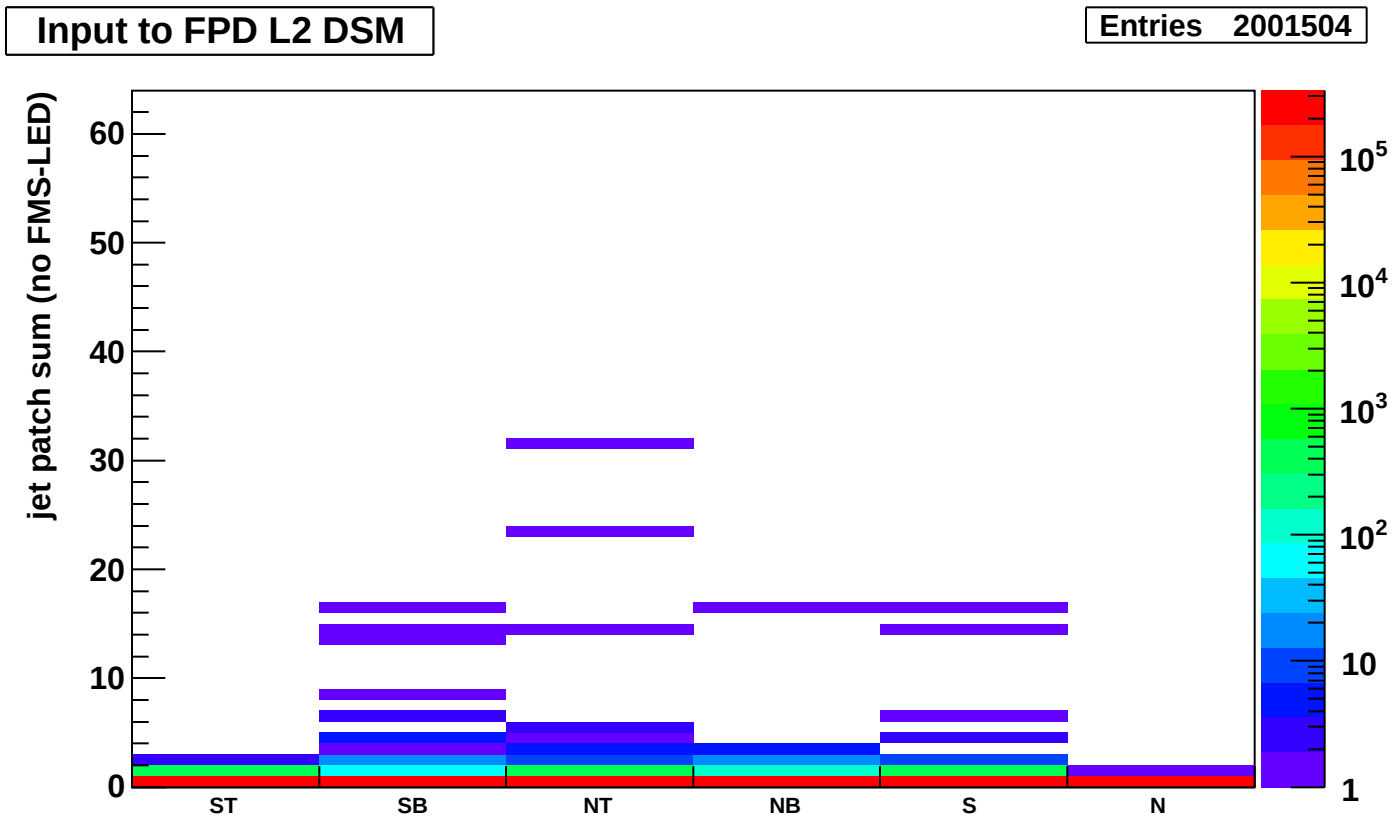

Input to FPD L2 DSM
Entries 2705
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

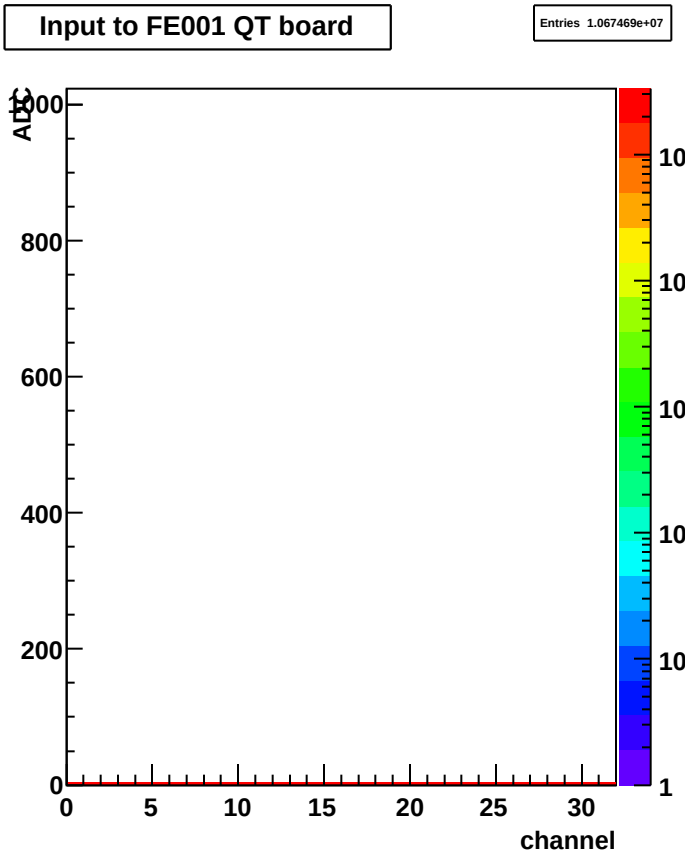

Input to FPD L2 DSM
Entries 1000752
CL bits
6
4
333574
333584
333584
SMALL
LARGE-S
LARGE-N

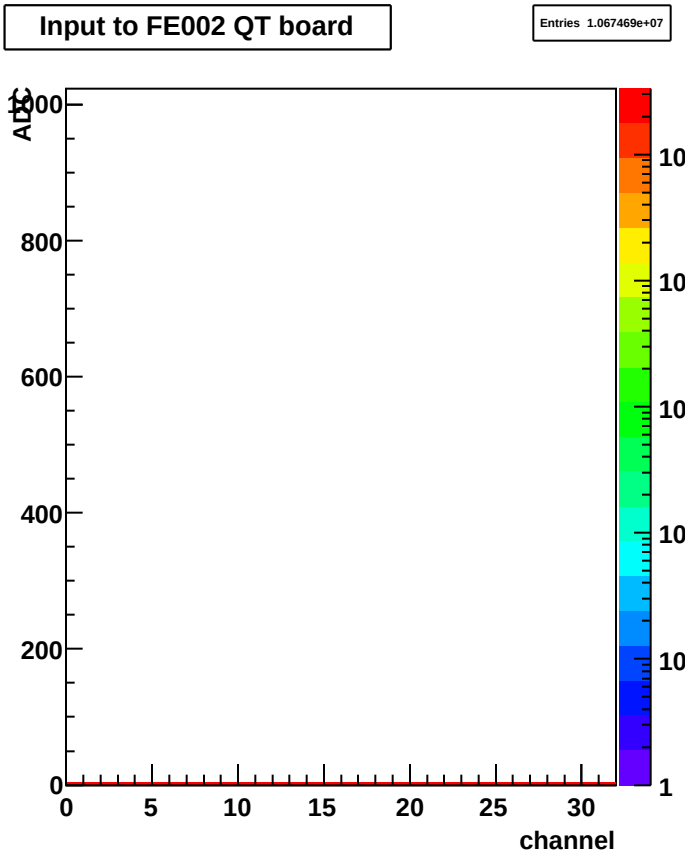

Input to FPD L2 DSM
Entries 13
CL bits - simulated
4
4
5
SMALL
LARGE-S
LARGE-N

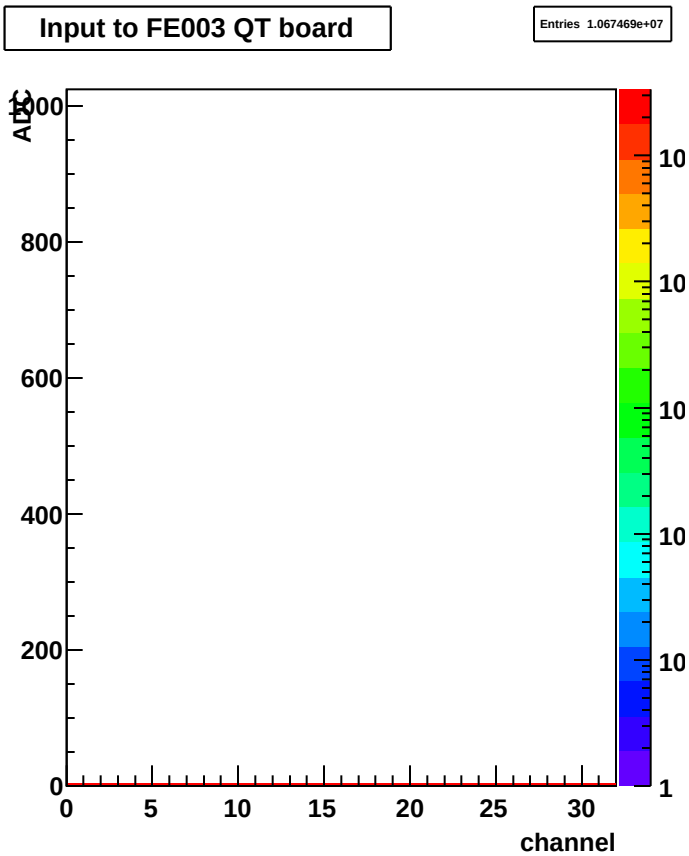

Input to FPD L2 DSM
Entries 1000752
HT bits
2
4
280
333298
333584
333584
SMALL
LARGE-S
LARGE-N

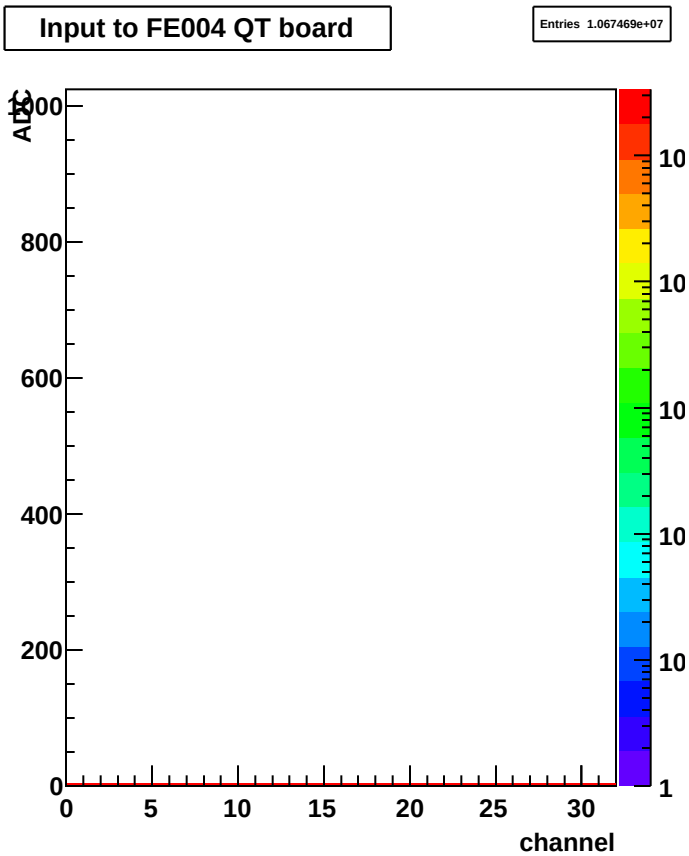

Input to FPD L2 DSM
Entries 555
HT bits - simulated
1
1
256
296
1
SMALL
LARGE-S
LARGE-N

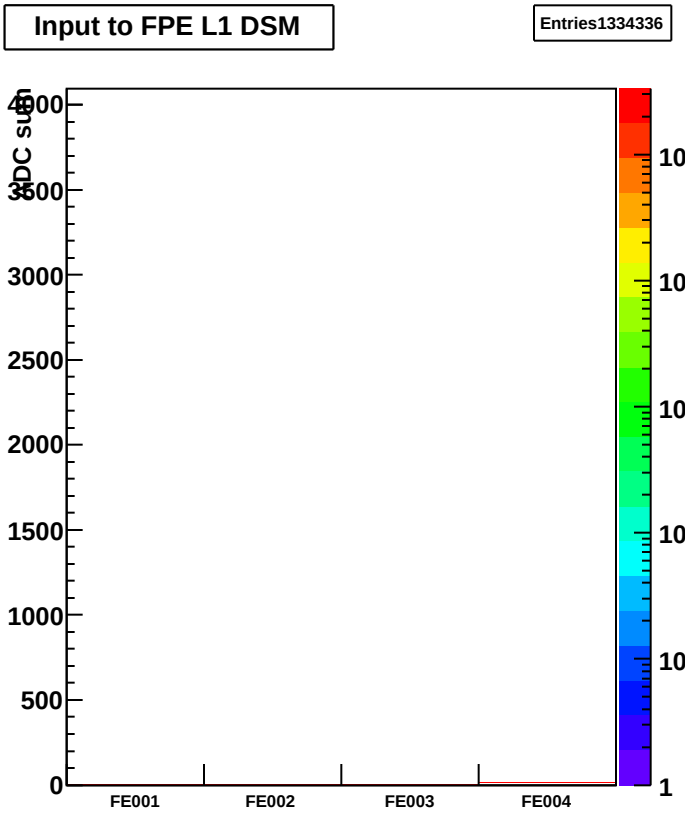

Input to FPD L2 DSM
Entries 2001504
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

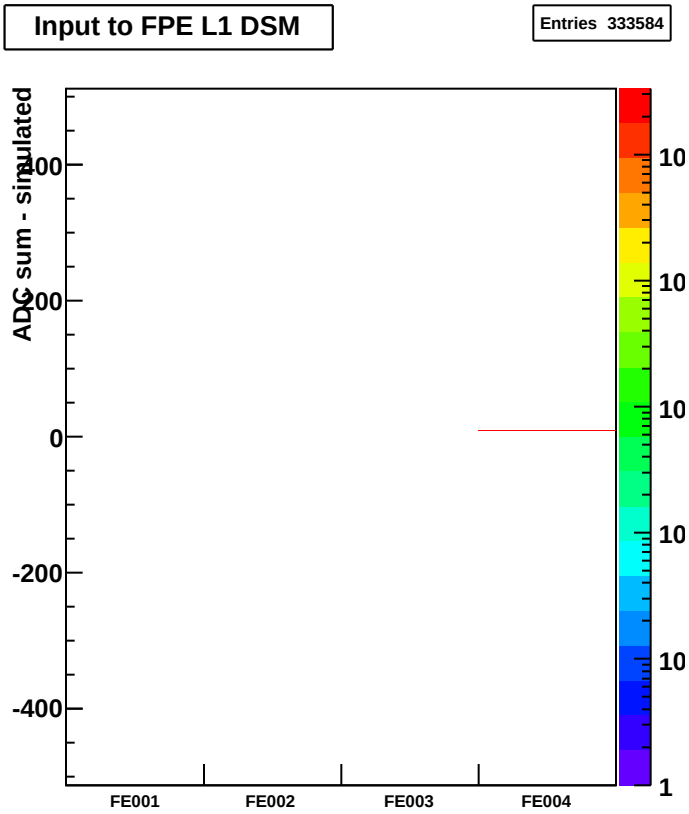

Input to FE001 QT board
Entries 1.067469e+07
ADC
channel

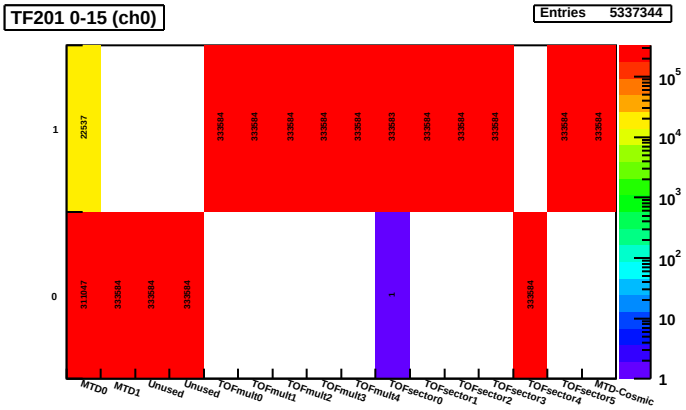

Input to FE002 QT board
Entries 1.067469e+07
ADC
channel

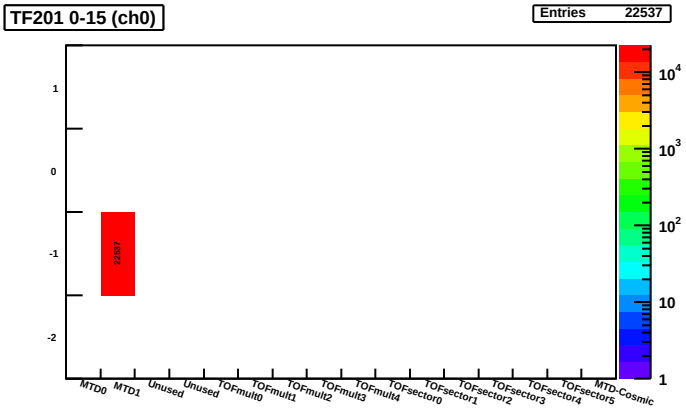

Input to FE003 QT board
Entries 1.067469e+07
ADC
channel

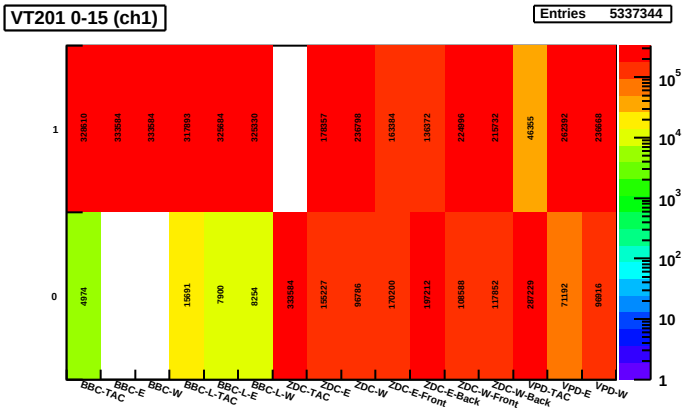

Input to FE004 QT board
Entries 1.067469e+07
ADC
channel

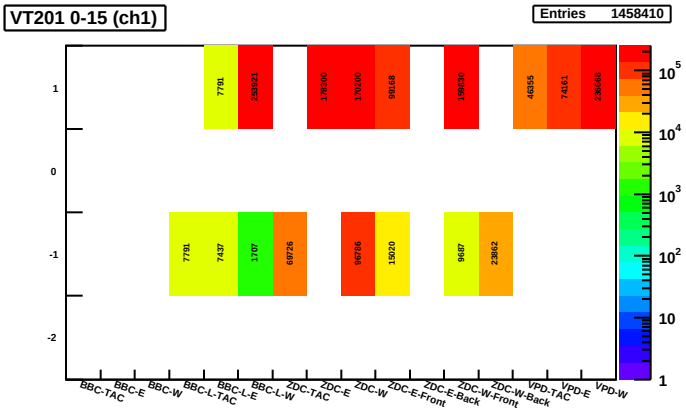

Input to FPE L1 DSM
Entries1334336
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1


Input to FPE L1 DSM
Entries 333584
ADC sum - simulated
200
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
1


TF201 0-15 (ch0)
Entries 5337344
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 22537
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 5337344
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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Entries 1458410
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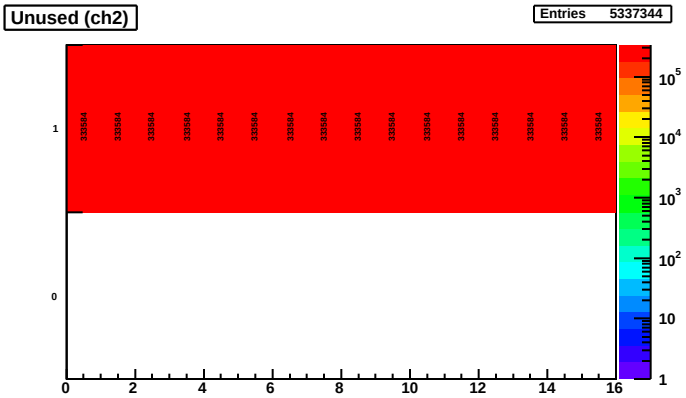
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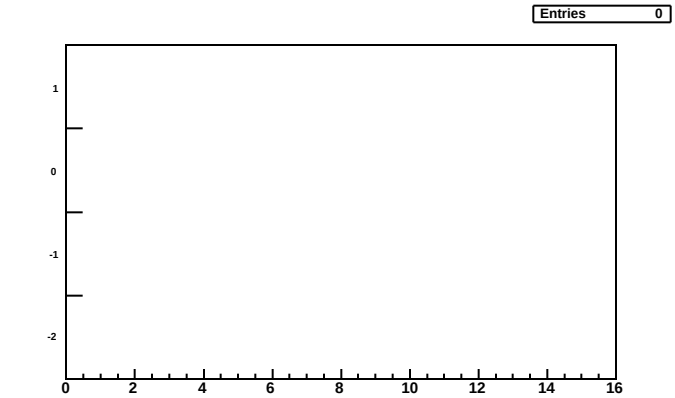
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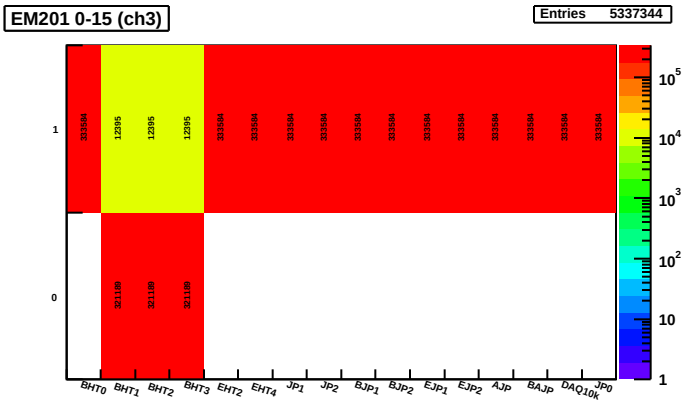
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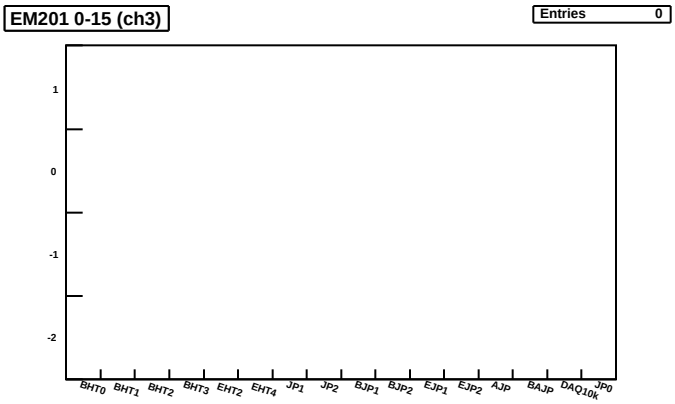
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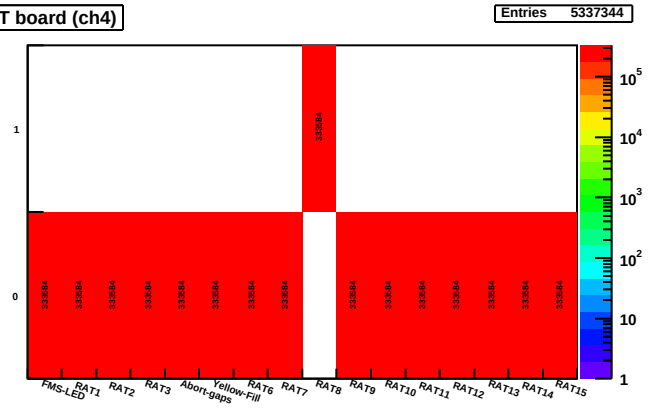
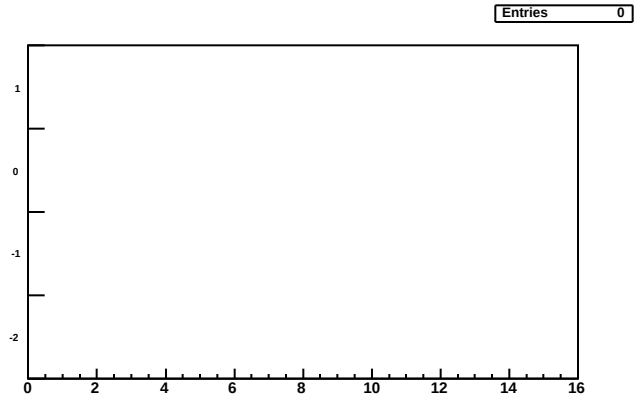
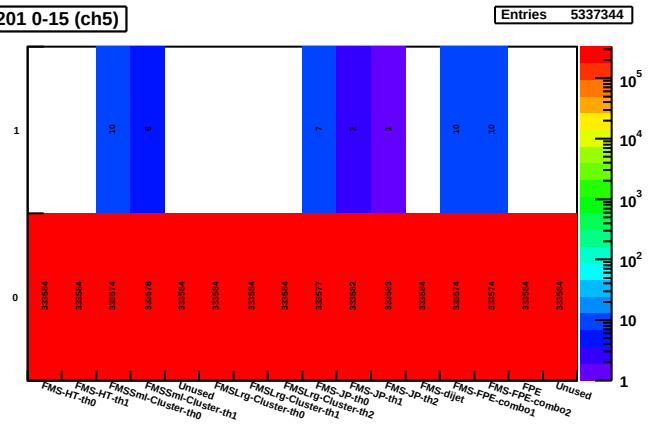
RAT board (ch4)





FP201 0-15 (ch5)



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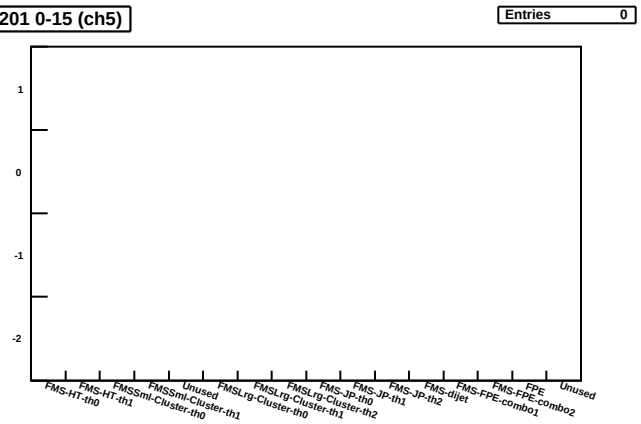
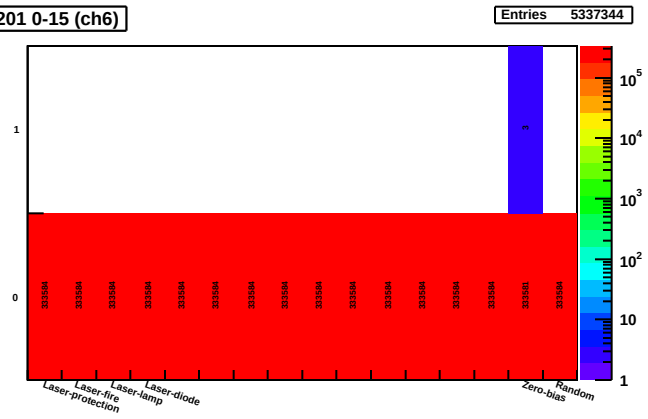
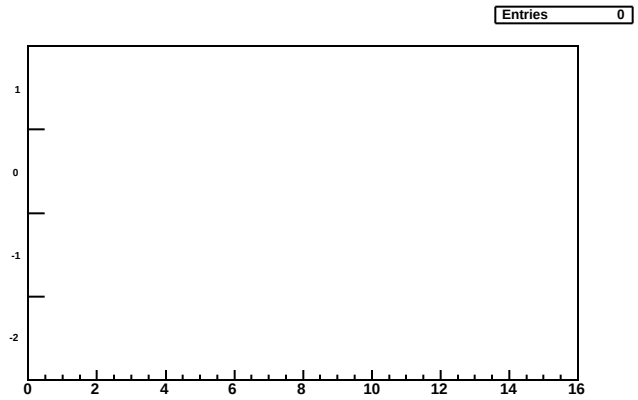
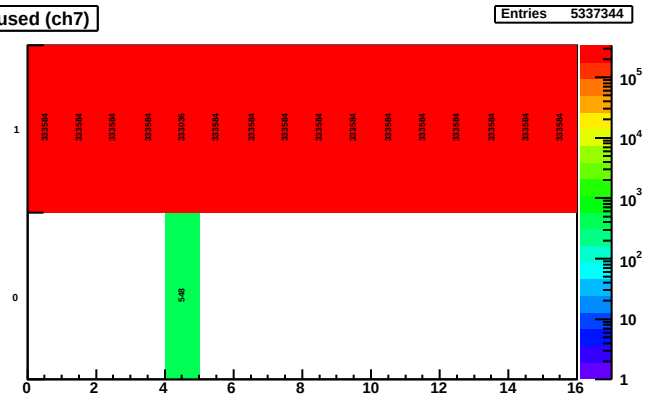
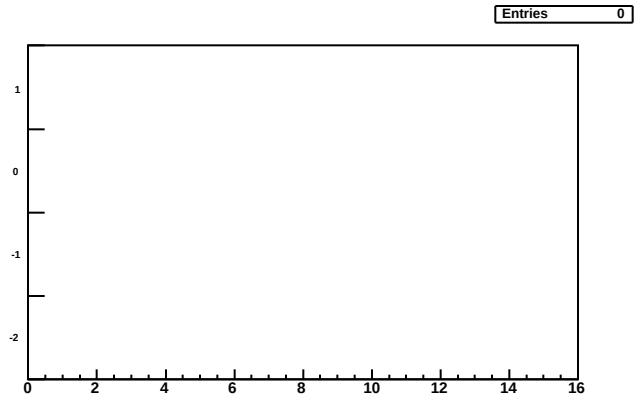


ST201 0-15 (ch6)





Unused (ch7)