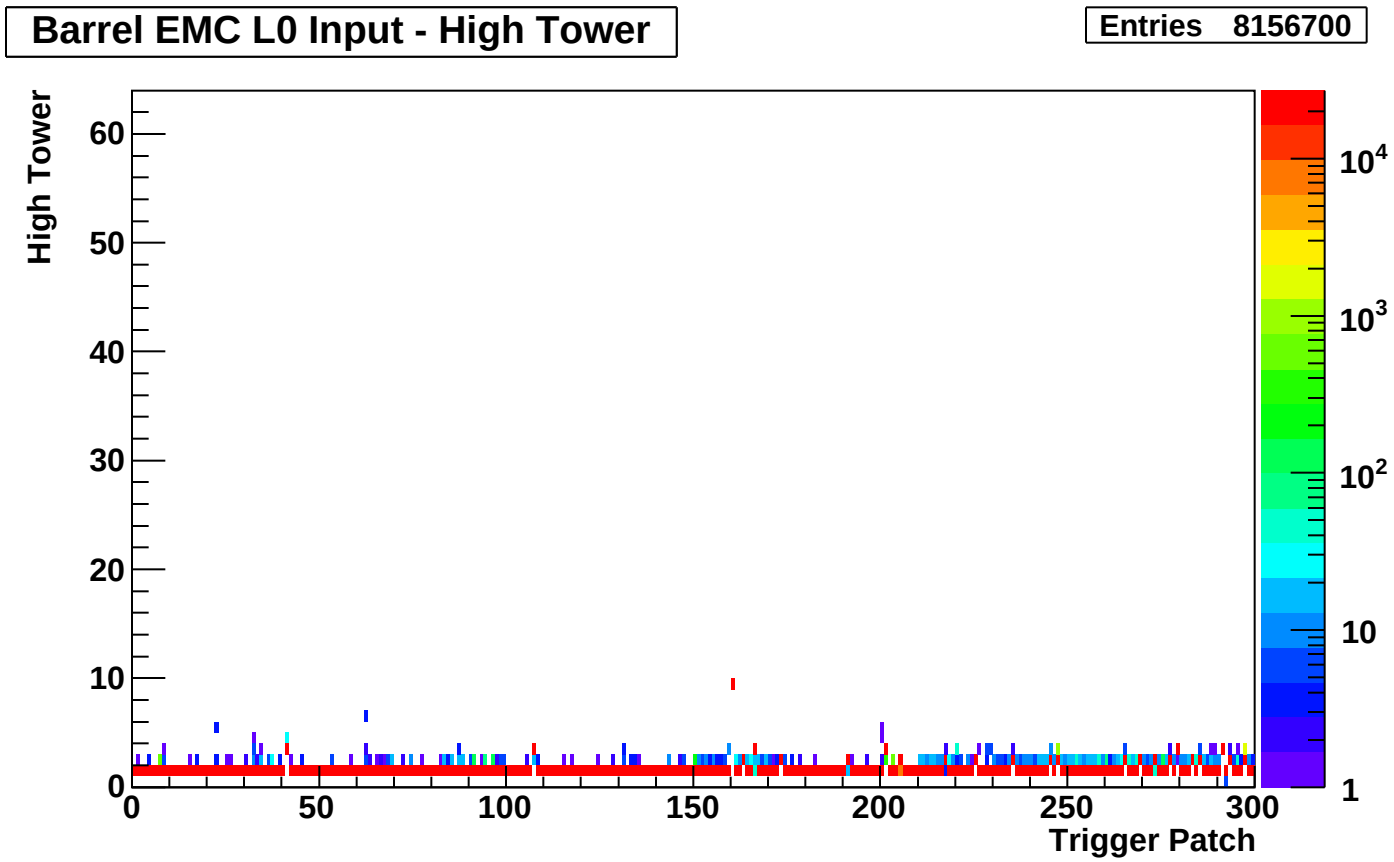
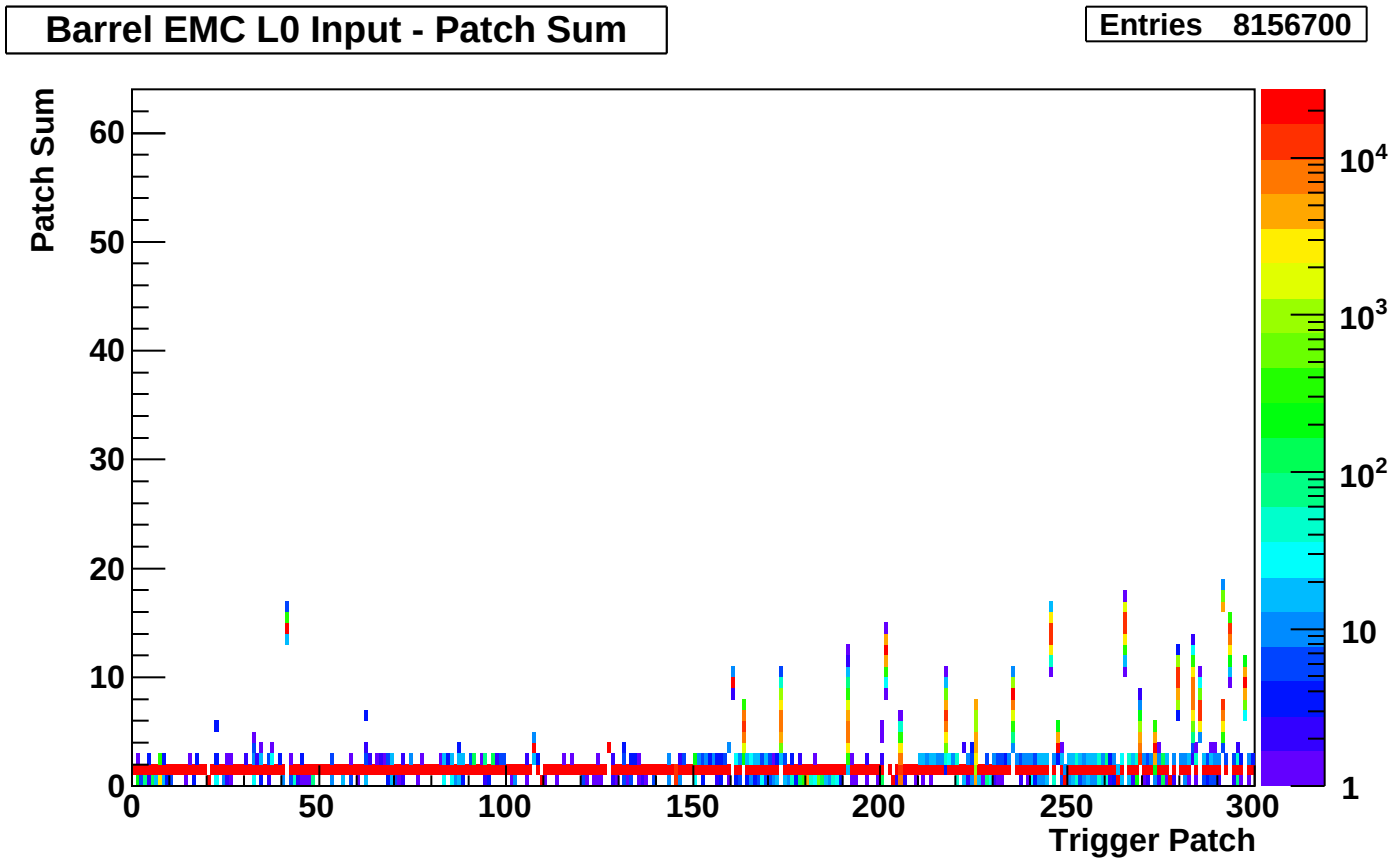
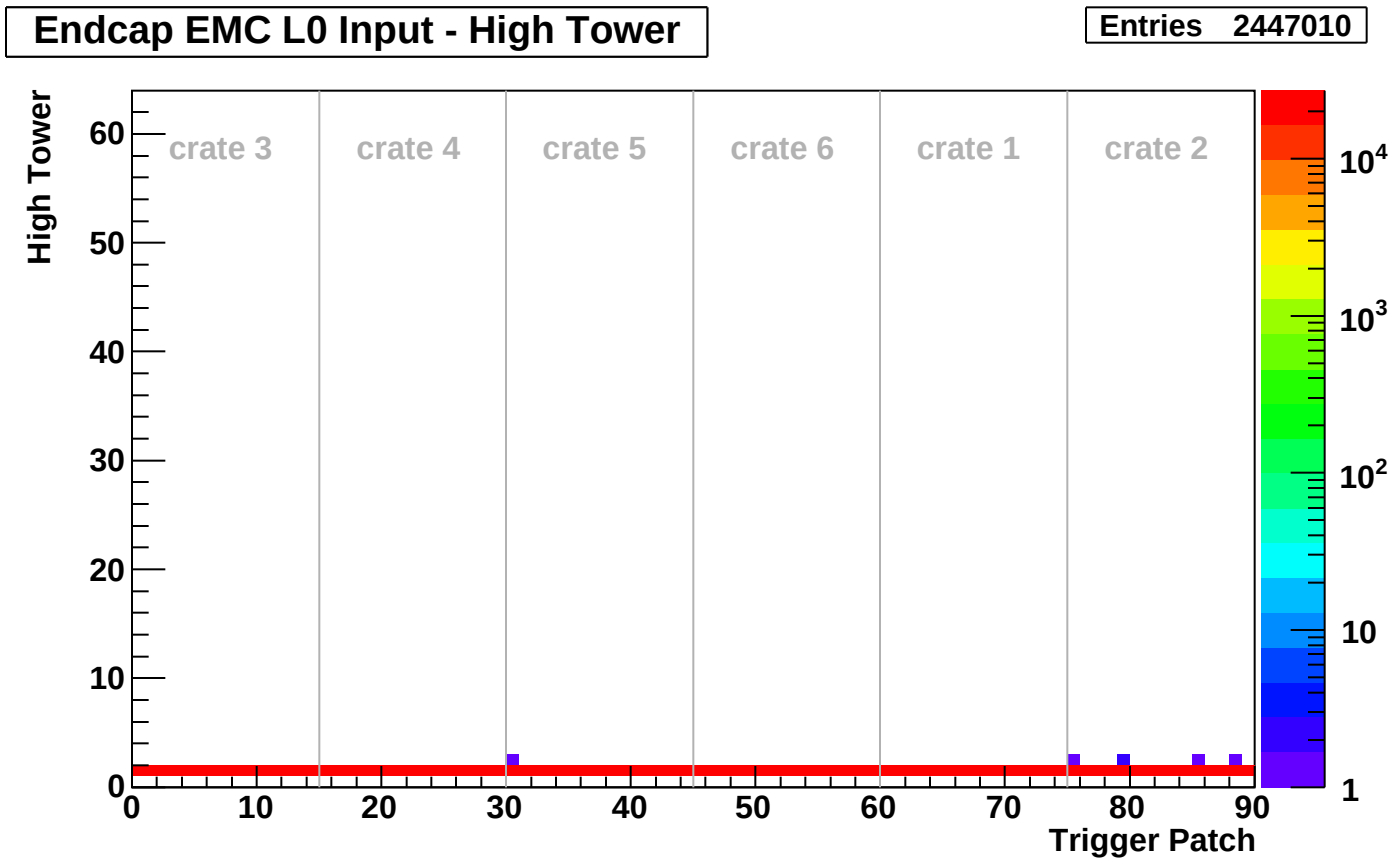
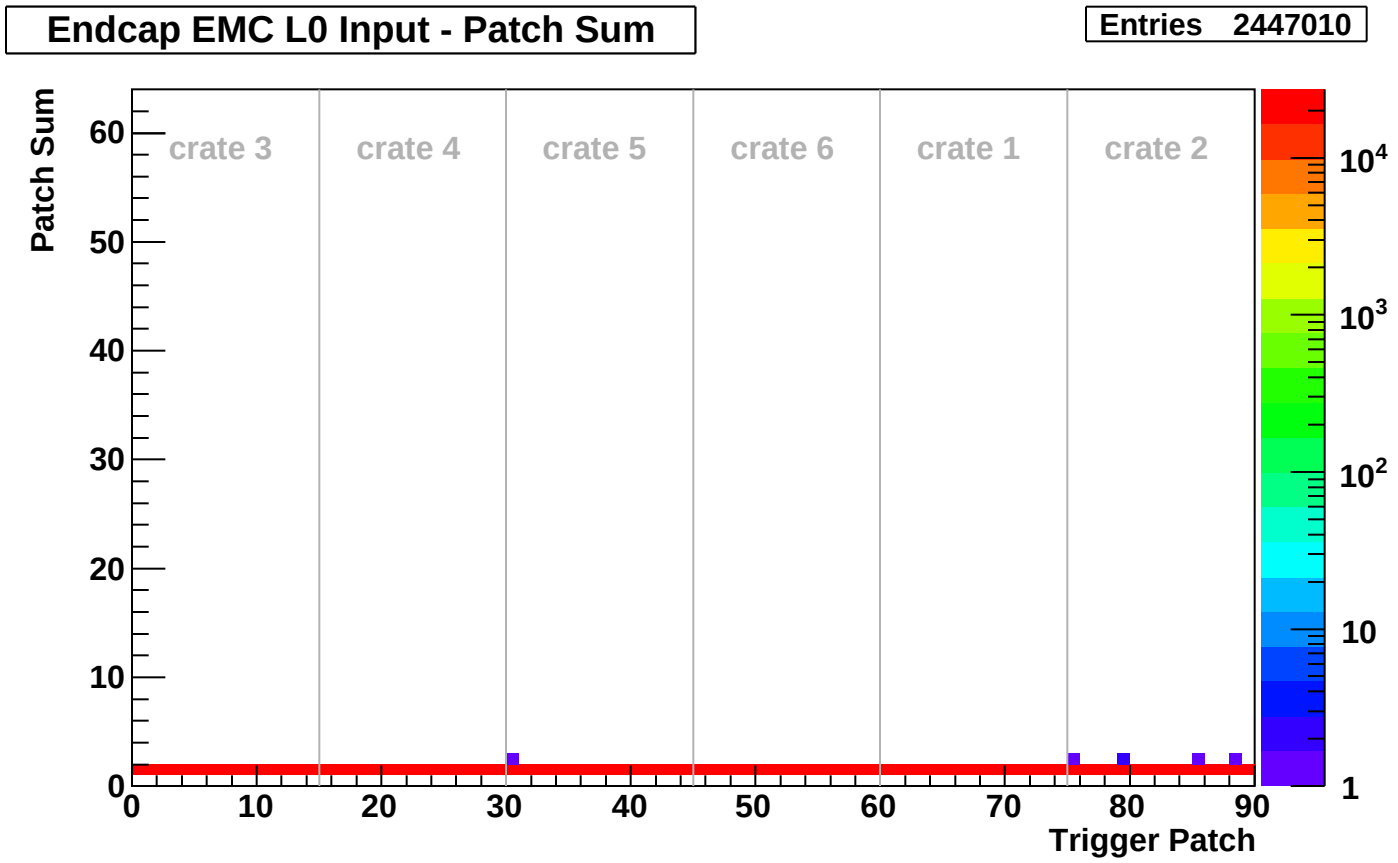
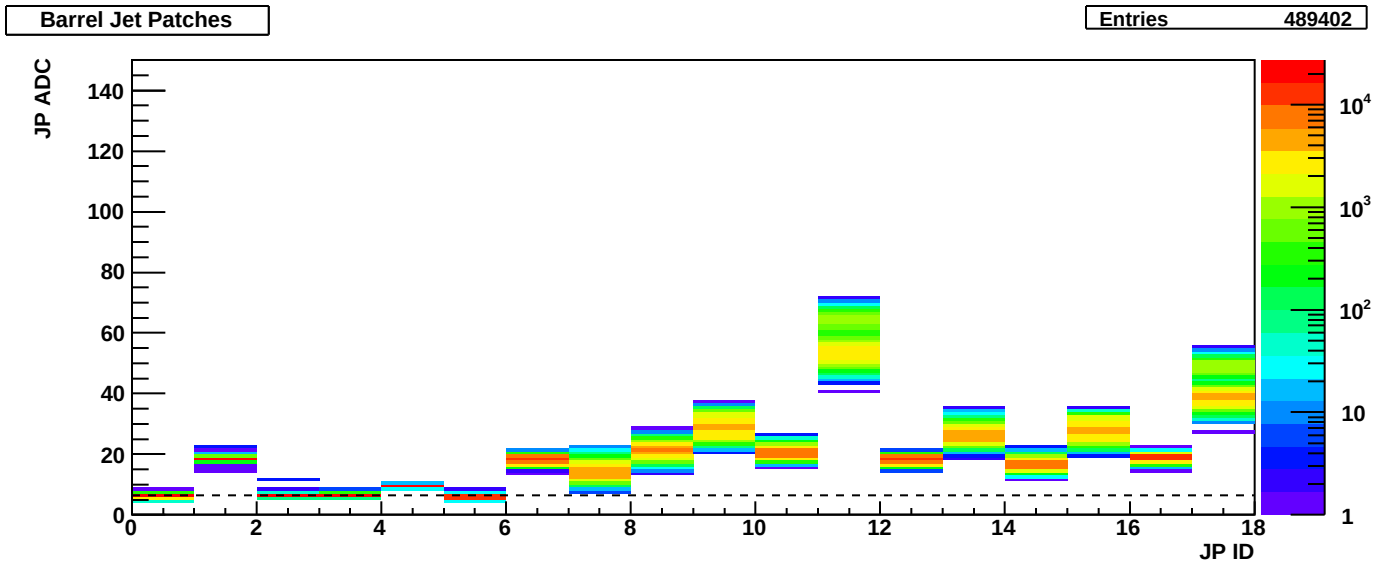
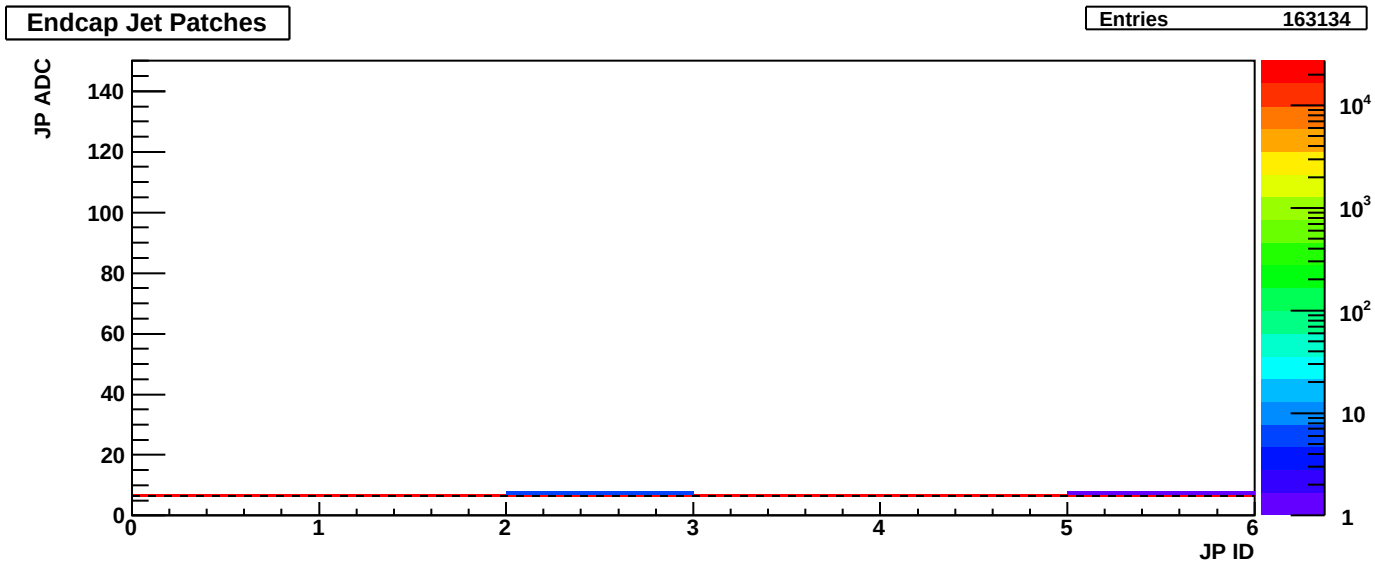

Barrel EMC L0 Input - High Tower
Entries 8156700
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$
$10^4$

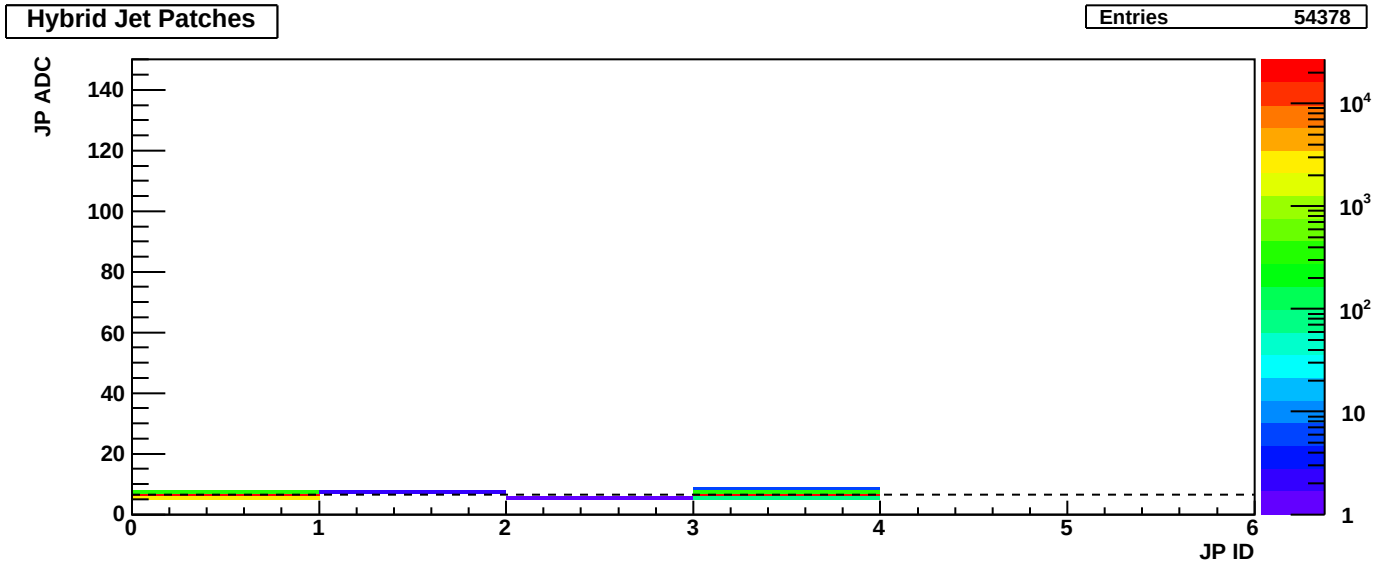

Barrel EMC L0 Input - Patch Sum
Entries 8156700
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$
$10^4$

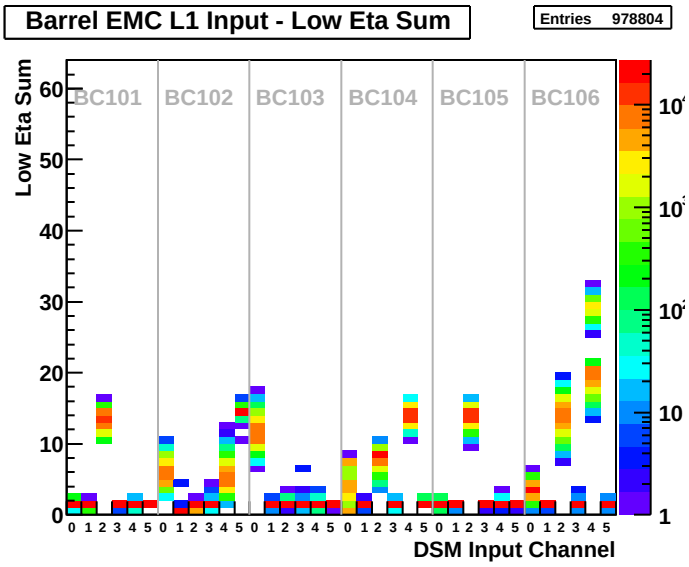

Endcap EMC L0 Input - High Tower
Entries 2447010
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

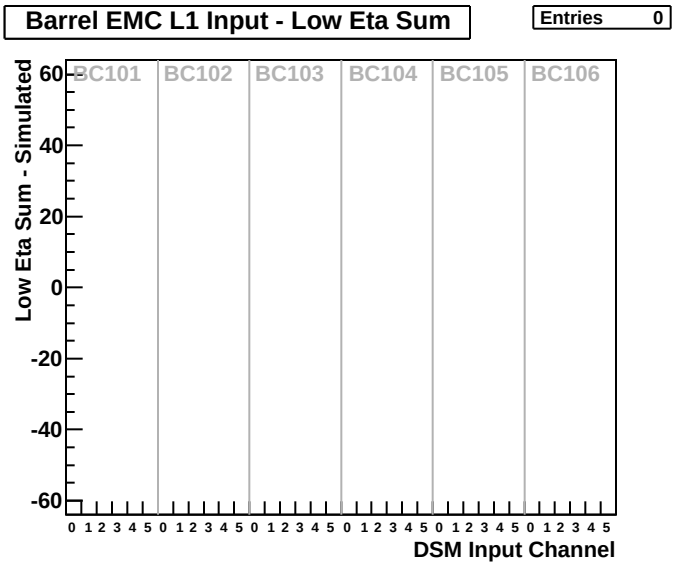

Endcap EMC L0 Input - Patch Sum
Entries 2447010
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

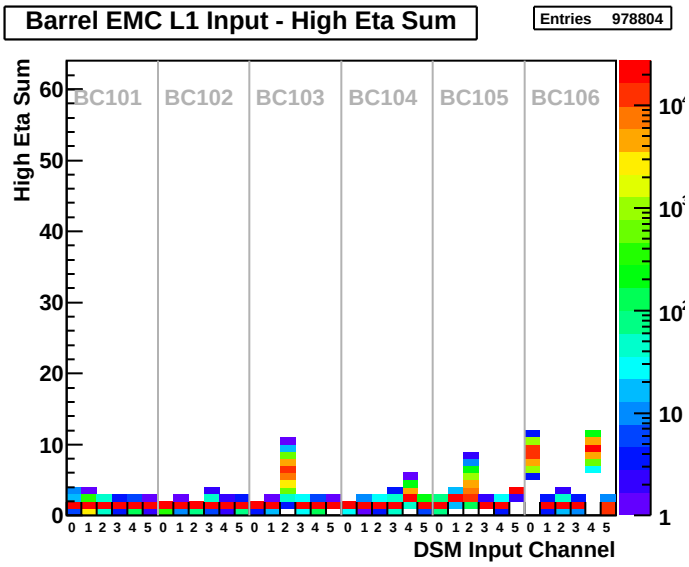

Barrel Jet Patches
Entries 489402
JP ADC
JP ID

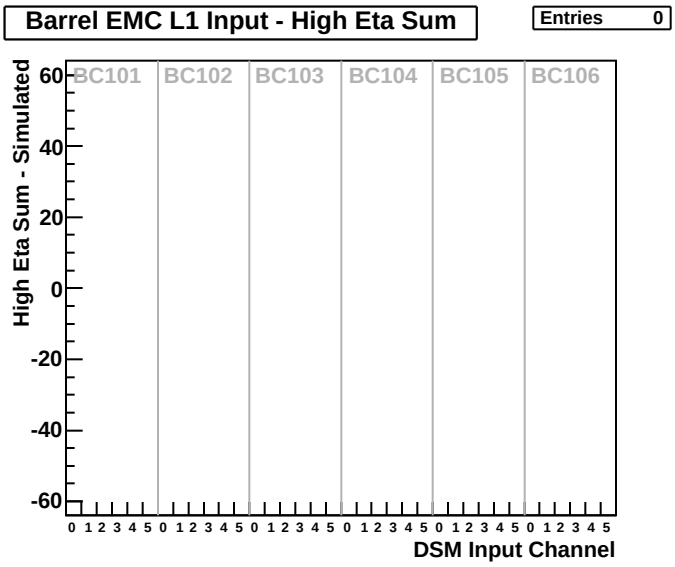

Endcap Jet Patches
Entries 163134
JP ADC
JP ID

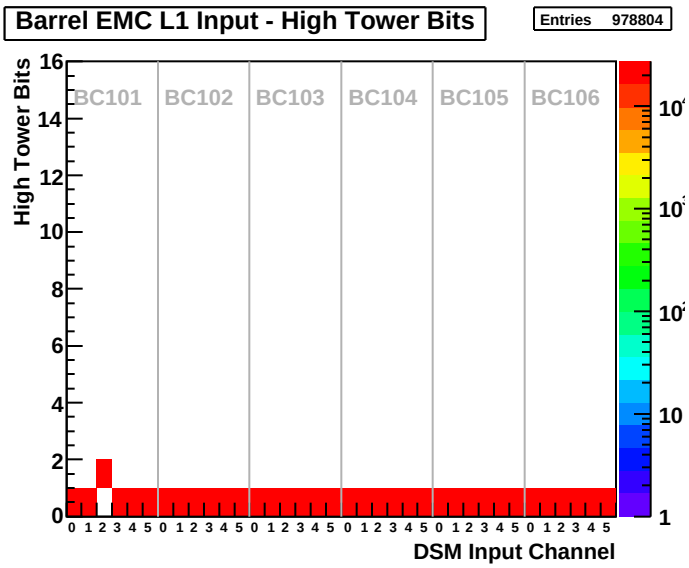

Hybrid Jet Patches
Entries 54378
JP ADC
JP ID

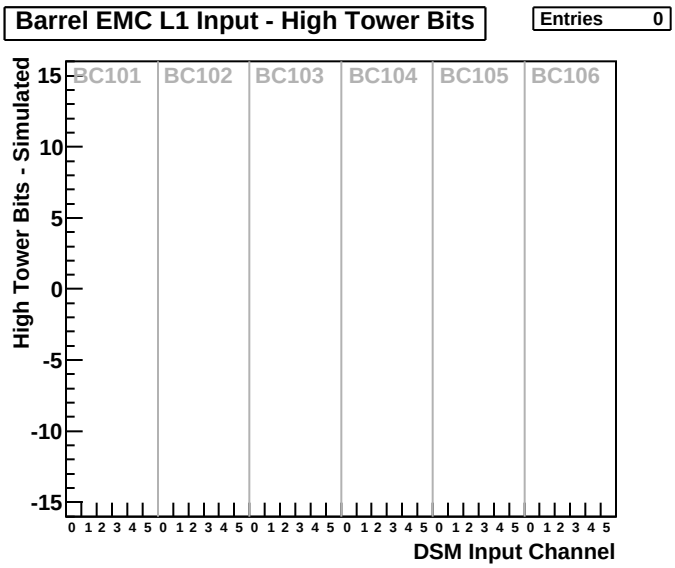

Barrel EMC L1 Input - Low Eta Sum
Entries 978804
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

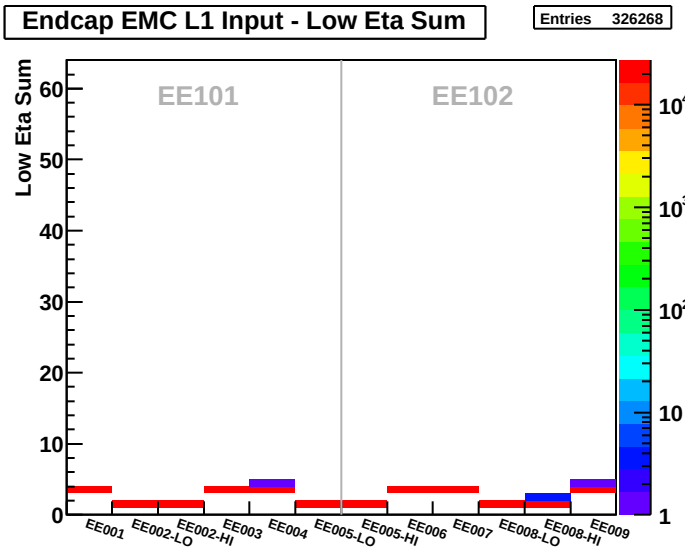

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

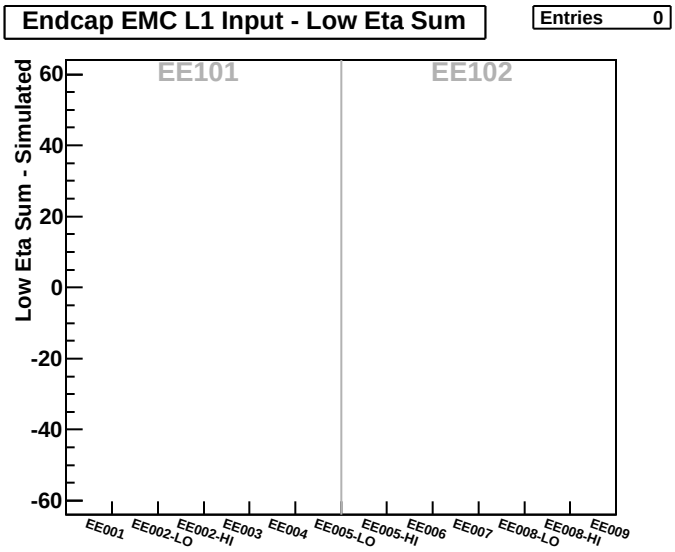

Barrel EMC L1 Input - High Eta Sum
Entries 978804
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

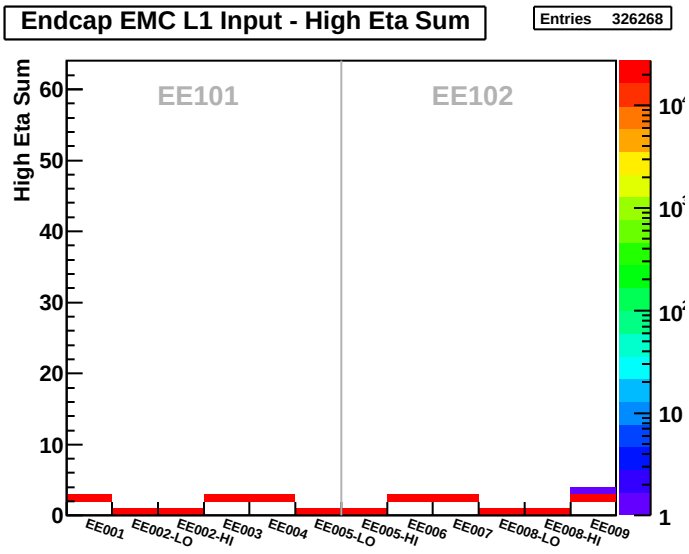

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

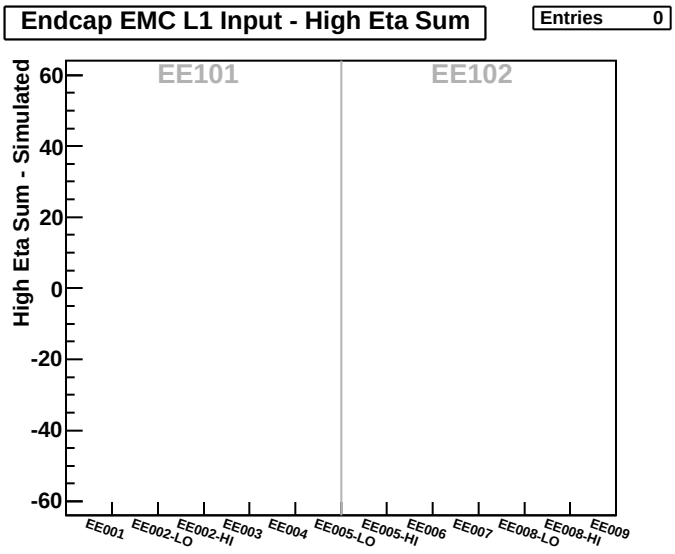

Barrel EMC L1 Input - High Tower Bits
Entries 978804
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

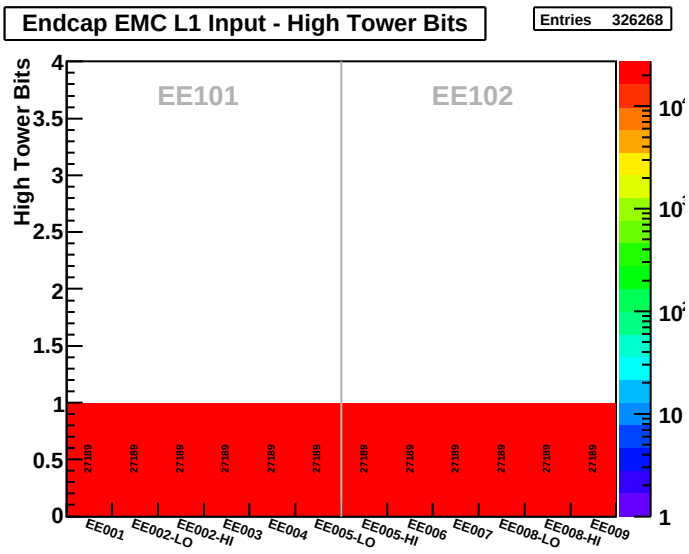

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

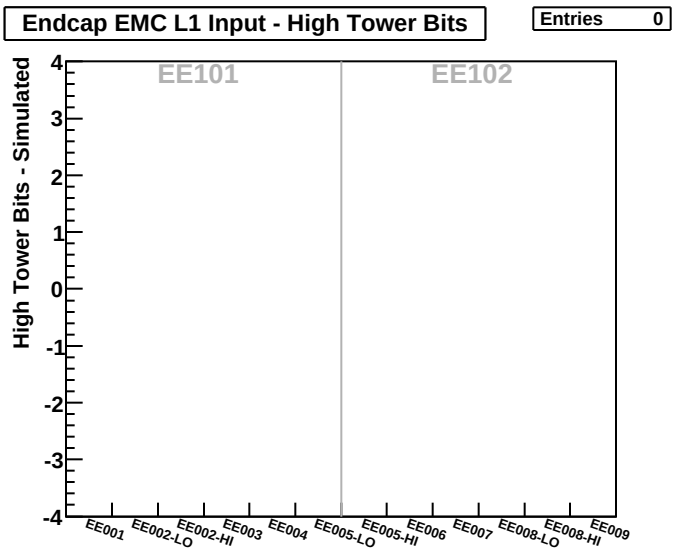

Endcap EMC L1 Input - Low Eta Sum
Entries 326268
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

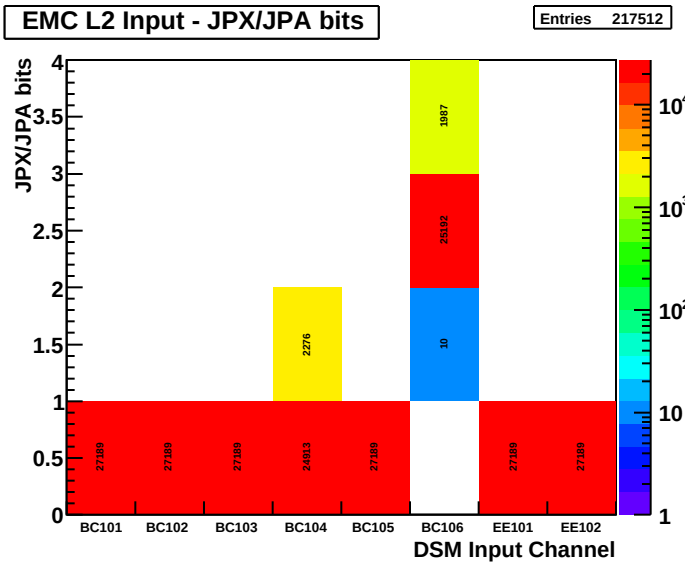

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

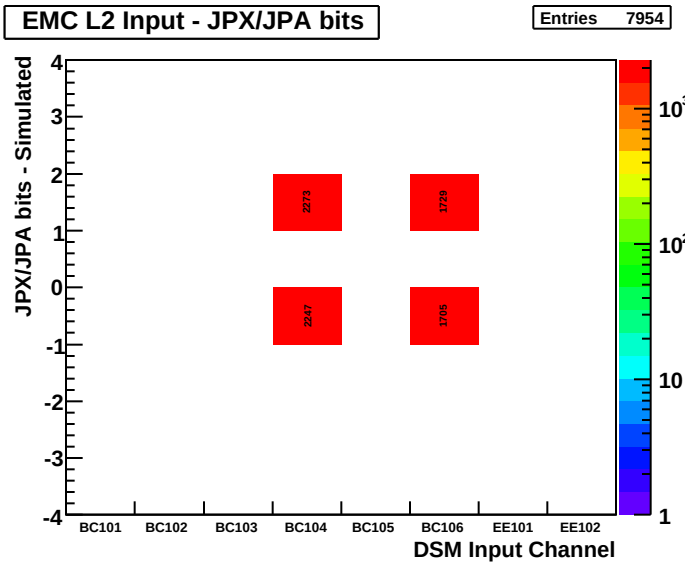

Endcap EMC L1 Input - High Eta Sum
Entries 326268
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

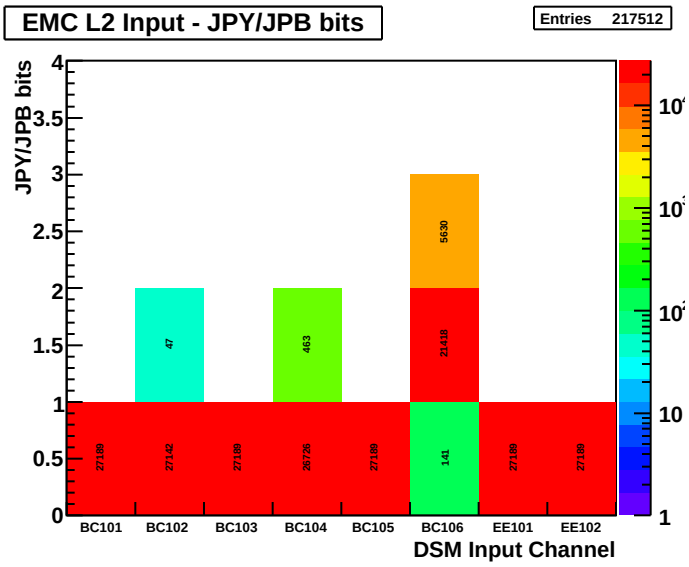

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

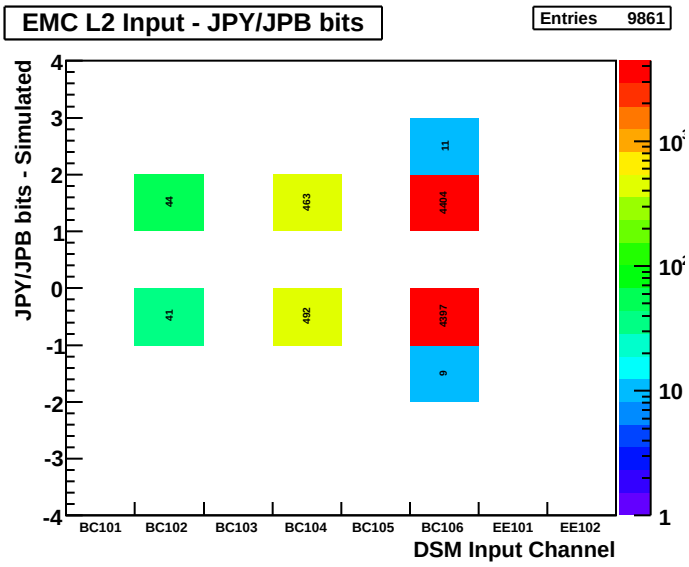

Endcap EMC L1 Input - High Tower Bits
Entries 326268
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

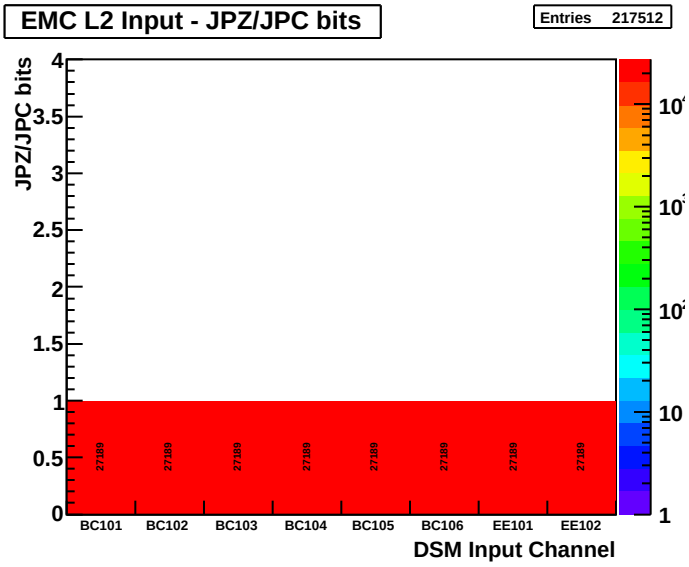

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

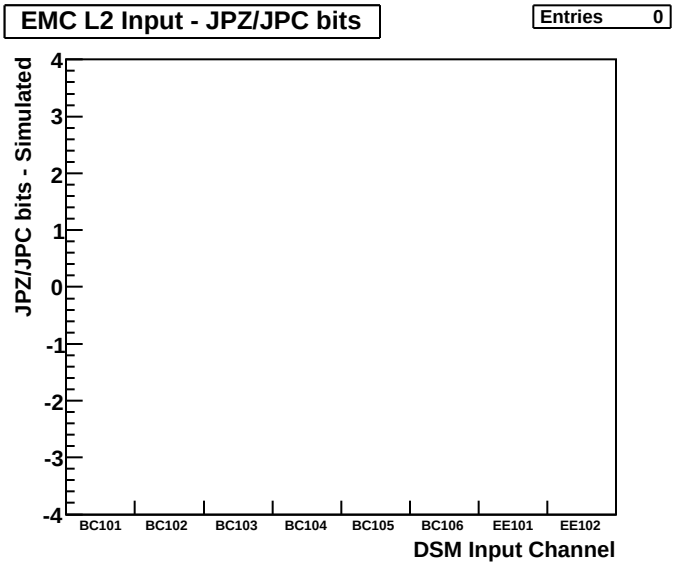

EMC L2 Input - JPX/JPA bits
Entries 217512
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
27189 27189 27189 24913 27189 27189 27189
2276
10 25192 1987

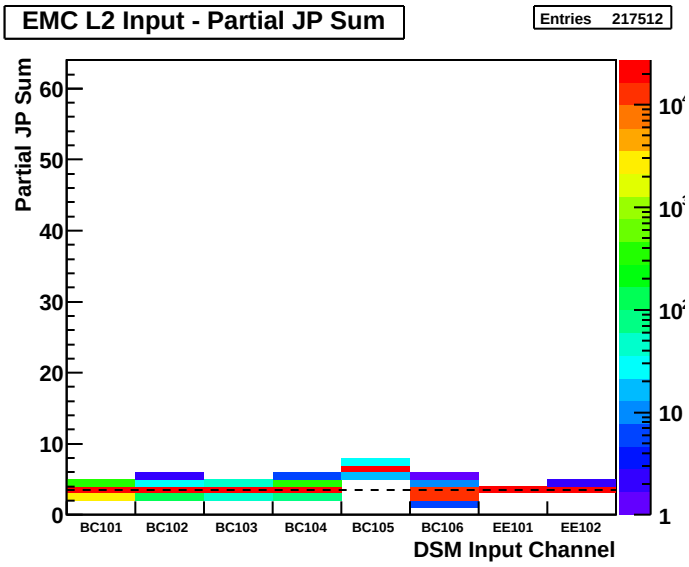

EMC L2 Input - JPX/JPA bits
Entries 7954
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
2247 2273 1705 1729

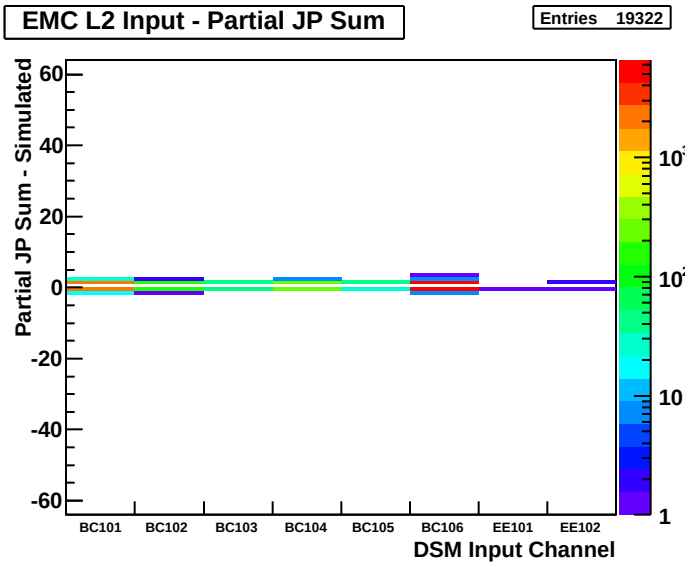

EMC L2 Input - JPY/JPB bits
Entries 217512
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
27189 27142 27189 26726 27189 141 27189 27189
47 463 21418 5630

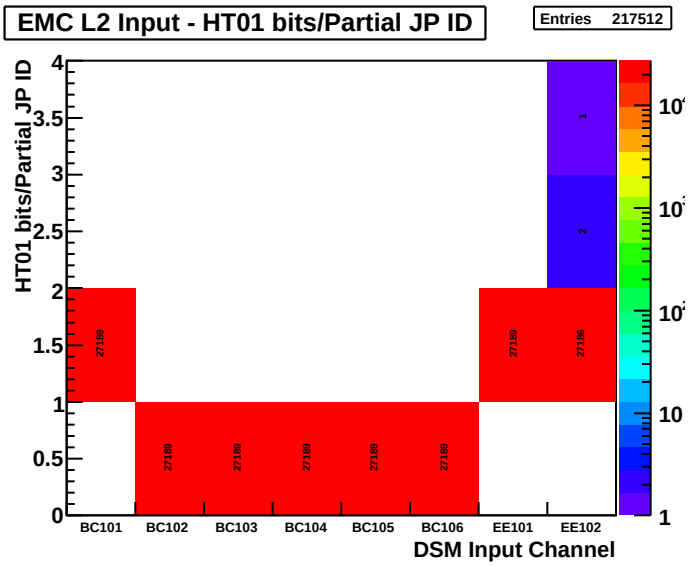

EMC L2 Input - JPY/JPB bits
Entries 9861
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
41 44 492 463 9 4397 4404 11

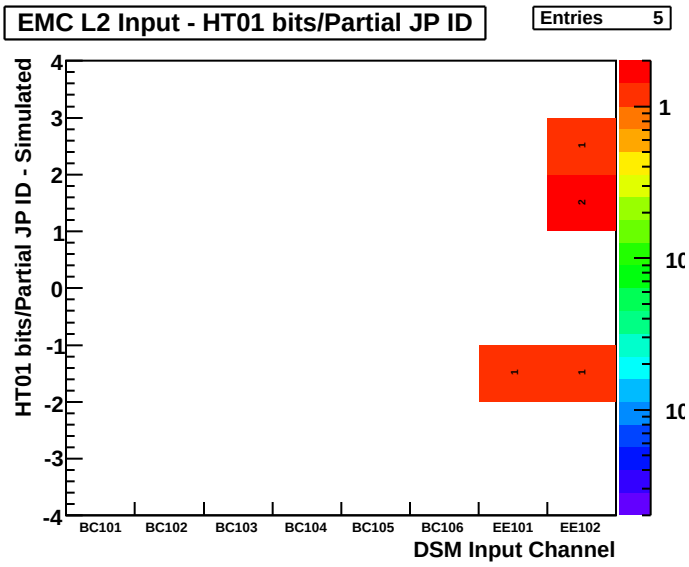

EMC L2 Input - JPZ/JPC bits
Entries 217512
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
27189 27189 27189 27189 27189 27189 27189 27189

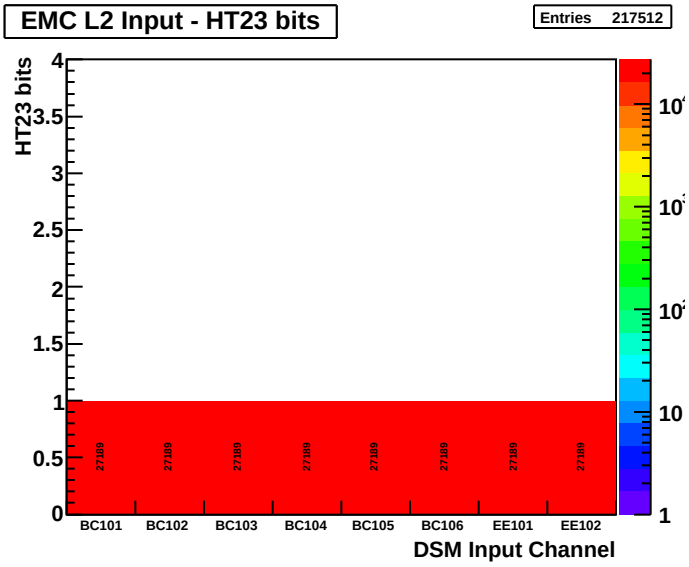

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

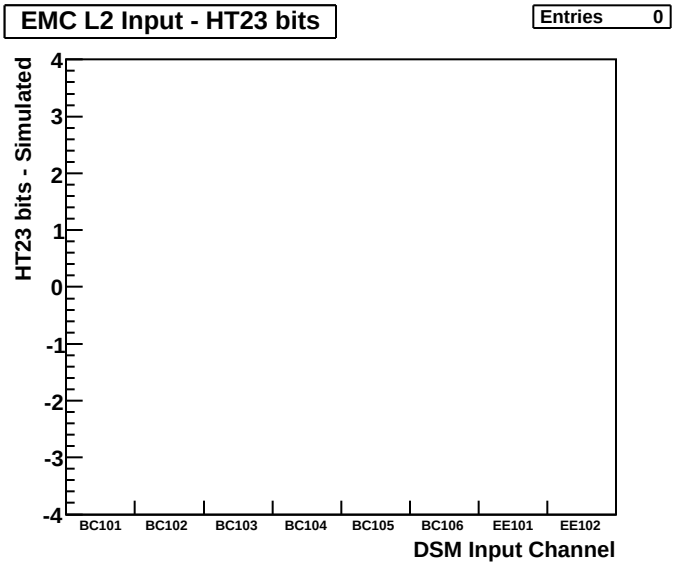

EMC L2 Input - Partial JP Sum
Entries 217512
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

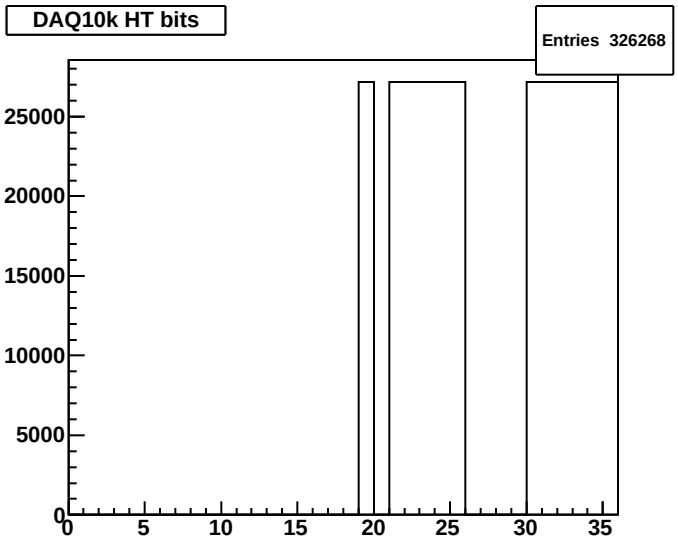

EMC L2 Input - Partial JP Sum
Entries 19322
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

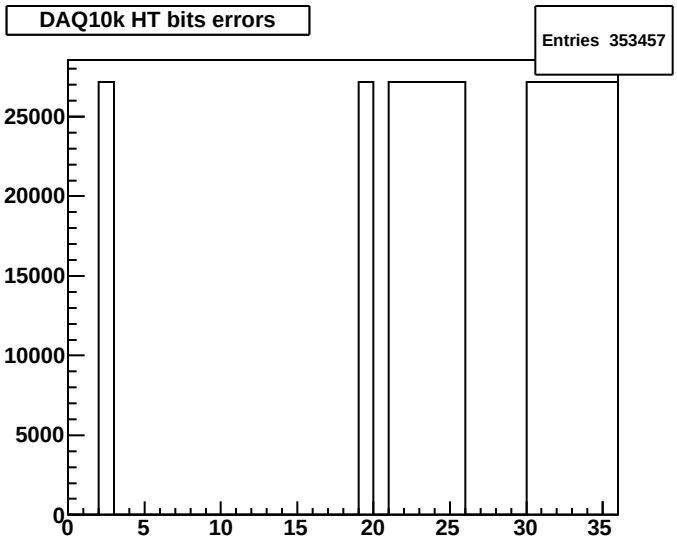

EMC L2 Input - HT01 bits/Partial JP ID
Entries 217512
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

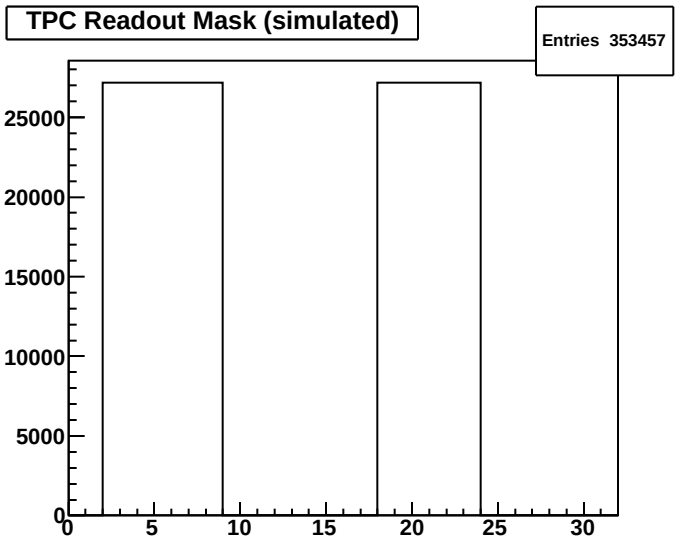

EMC L2 Input - HT01 bits/Partial JP ID
Entries 5
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

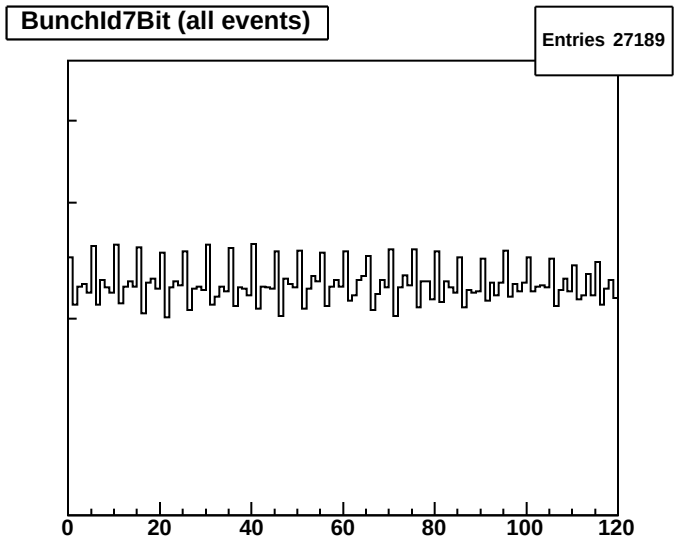

EMC L2 Input - HT23 bits
Entries 217512
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

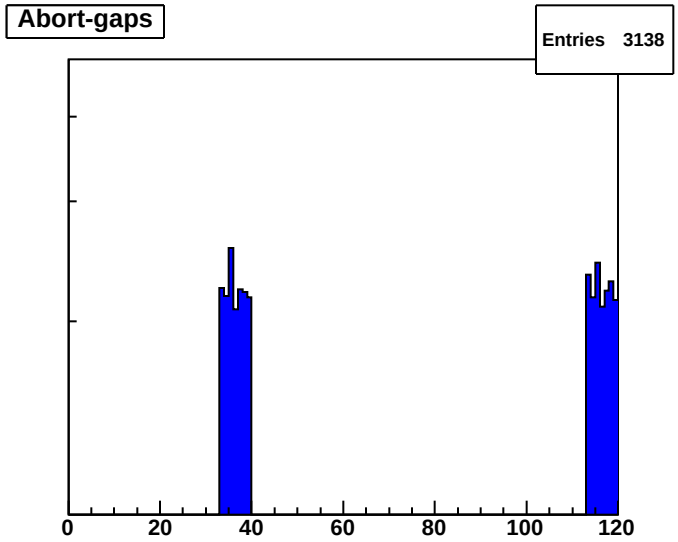

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

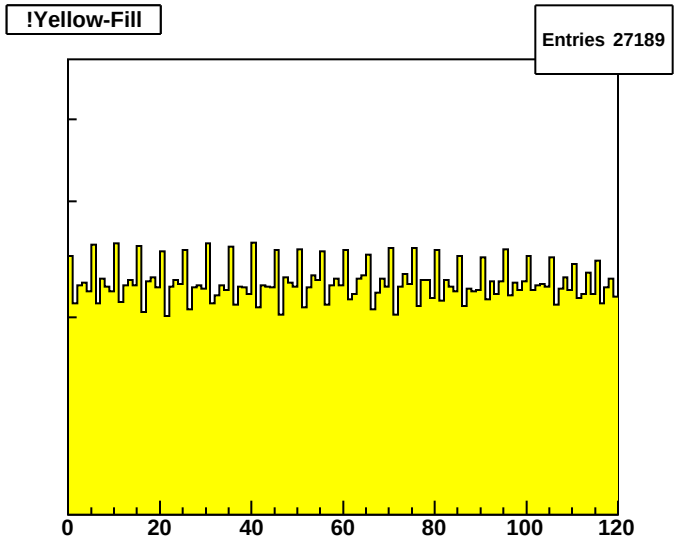

DAQ10k HT bits
Entries 326268
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30 35

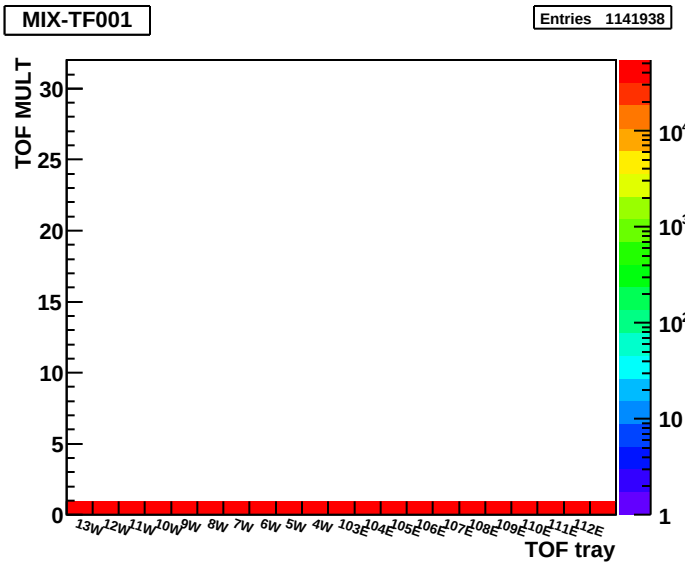

DAQ10k HT bits errors
Entries 353457
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30 35

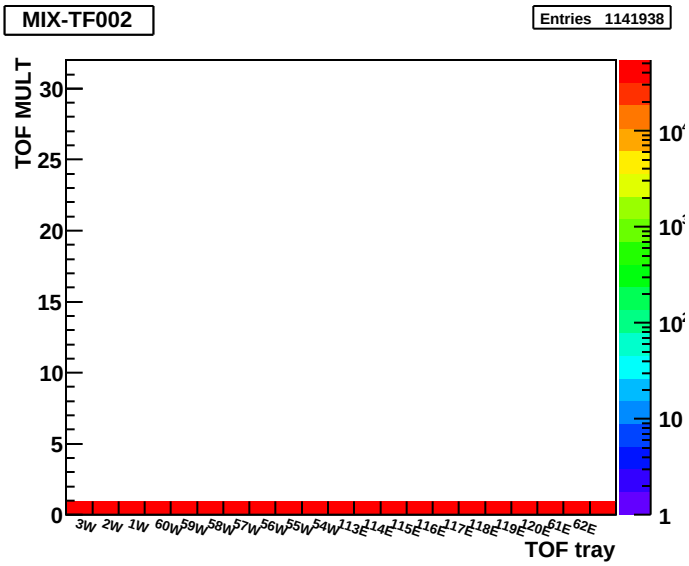

TPC Readout Mask (simulated)
Entries 353457
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30

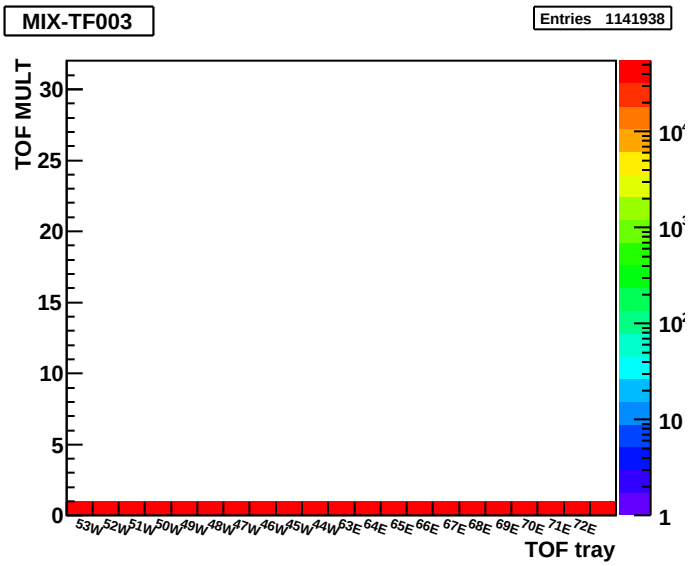

BunchId7Bit (all events)
Entries 27189
0 20 40 60 80 100 120

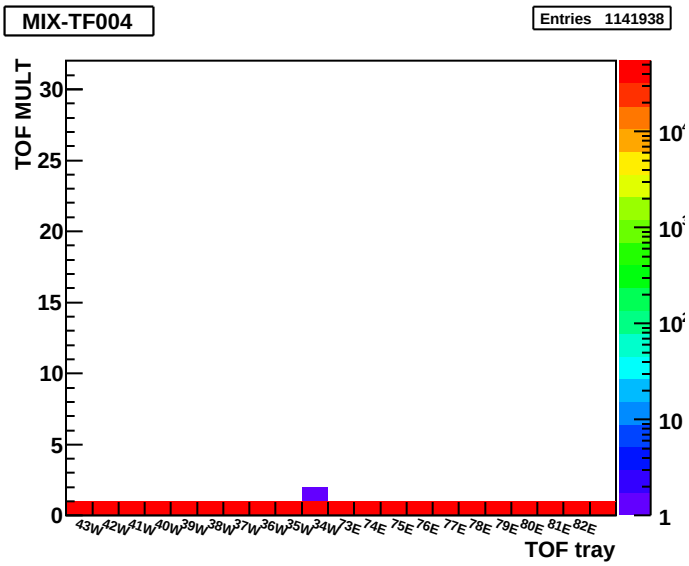

Abort-gaps
Entries 3138
0 20 40 60 80 100 120

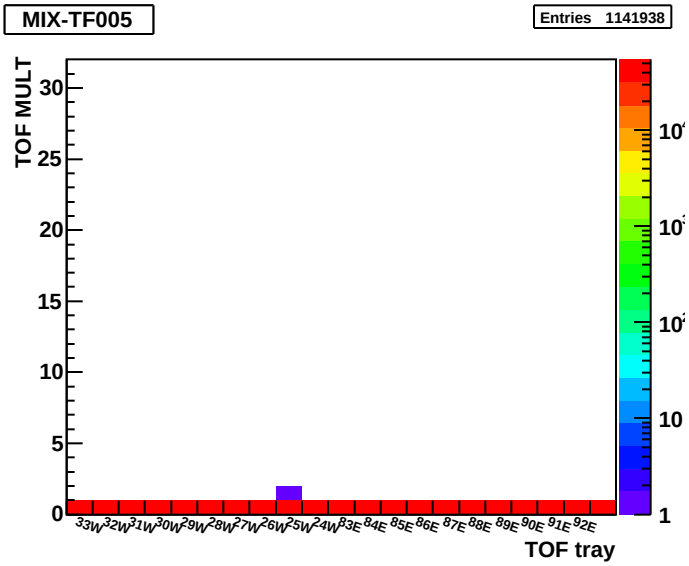

!Yellow-Fill
Entries 27189
0 20 40 60 80 100 120

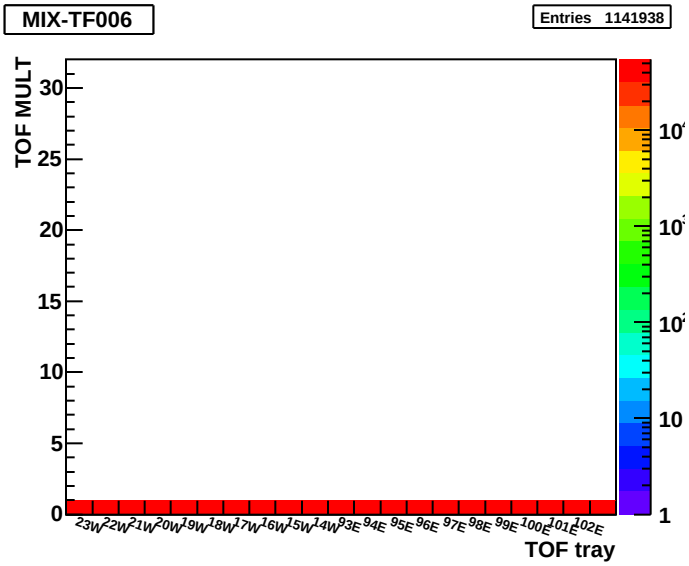

MIX-TF001
Entries 1141938
TOF MULT
TOF tray

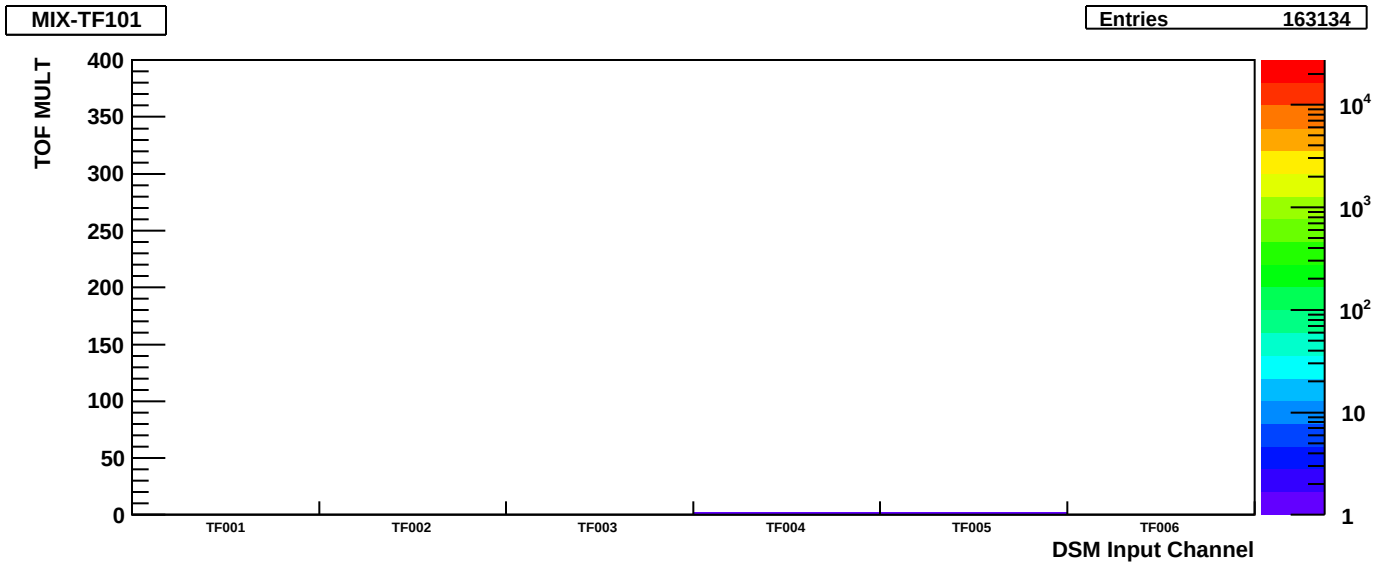

MIX-TF002
Entries 1141938
TOF MULT
TOF tray

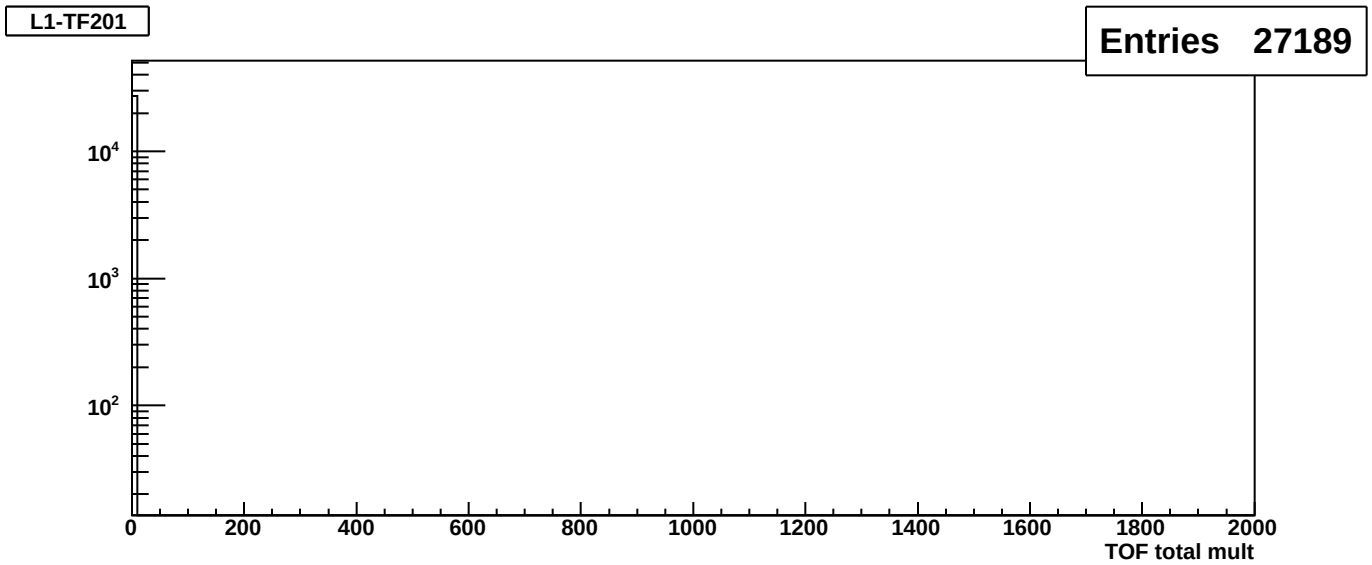

MIX-TF003
Entries 1141938
TOF MULT
TOF tray

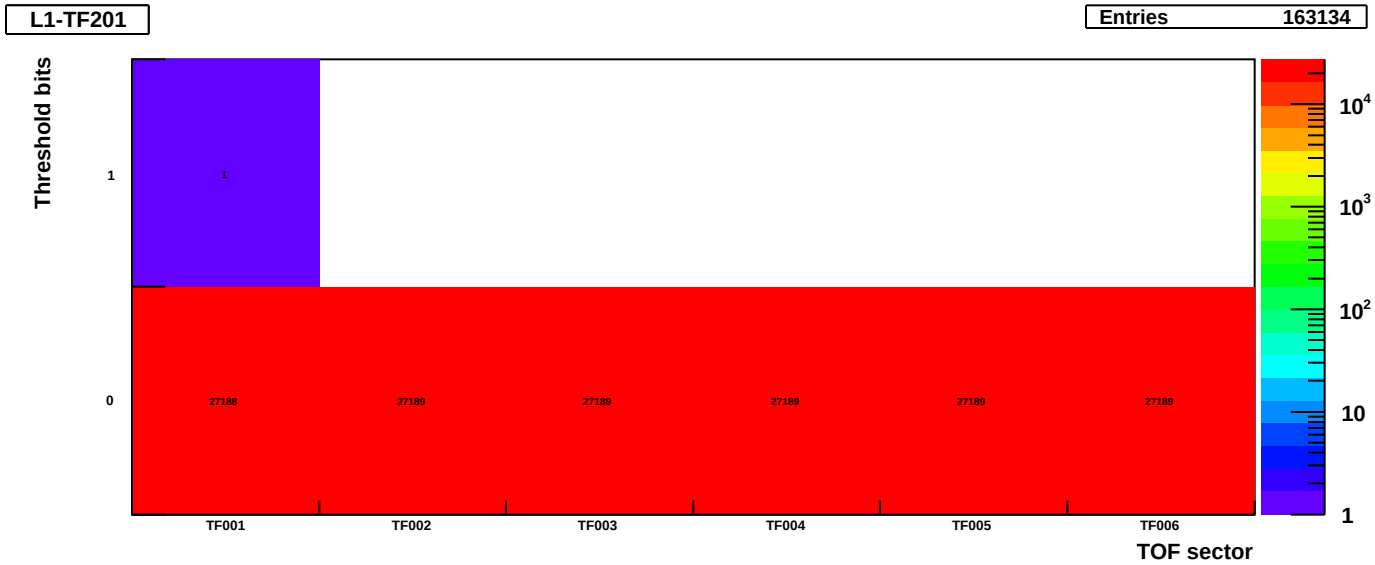

MIX-TF004
Entries 1141938
TOF MULT
TOF tray

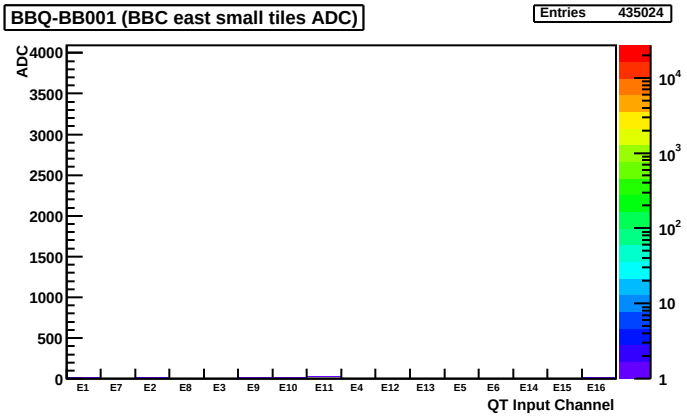

MIX-TF005
Entries 1141938
TOF MULT
TOF tray

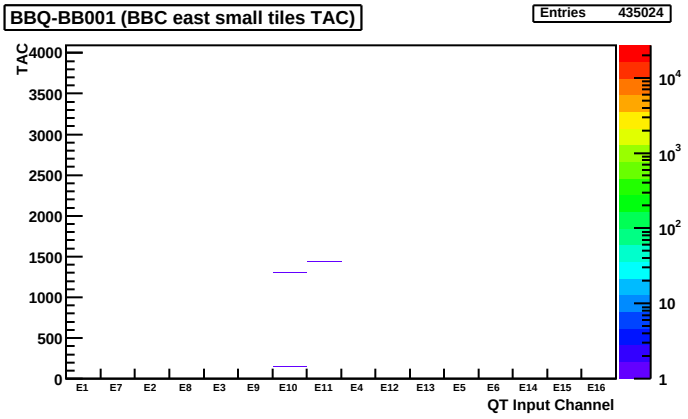

MIX-TF006
Entries 1141938
TOF MULT
TOF tray

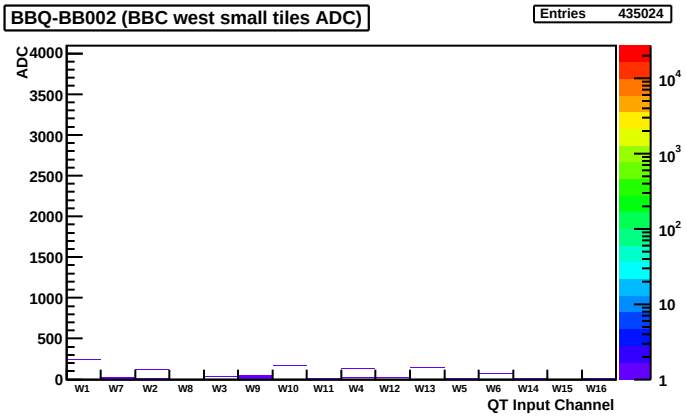

MIX-TF101
Entries 163134
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
$10^4$
$10^3$
$10^2$
10
1

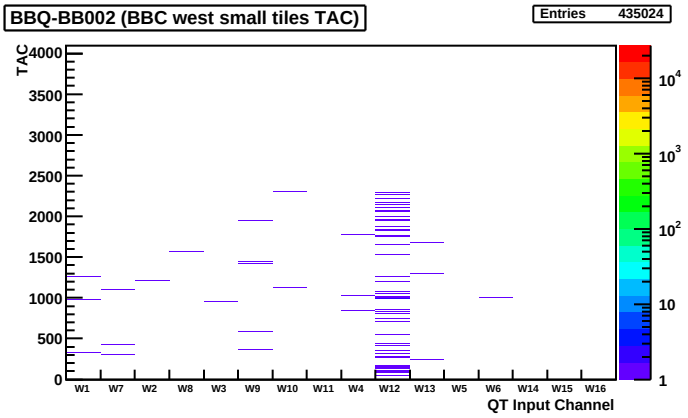

L1-TF201
Entries 27189
$10^4$
$10^3$
$10^2$
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

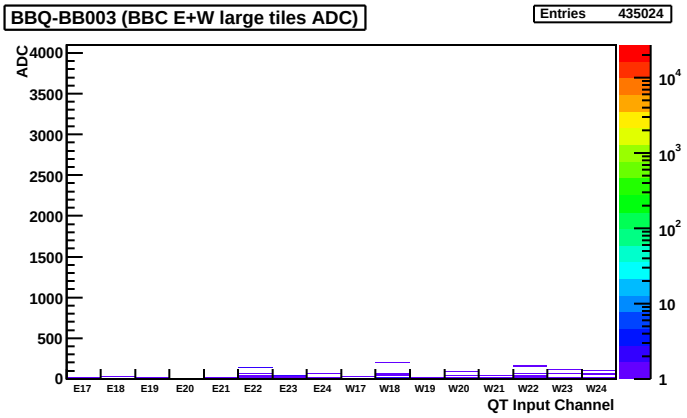

L1-TF201
Entries 163134
Threshold bits
1
0
1
27188
27189
27189
27189
27189
27189
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
$10^4$
$10^3$
$10^2$
10
1

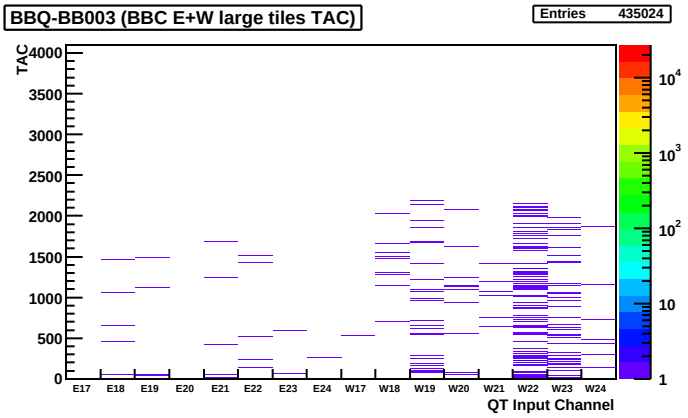

BBQ-BB001 (BBC east small tiles ADC)
Entries 435024
ADC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

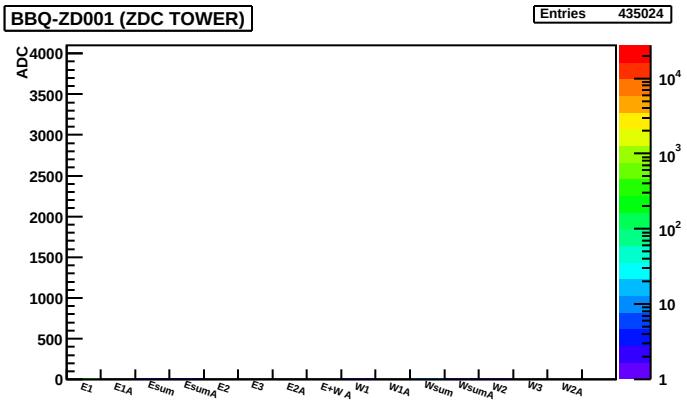

BBQ-BB001 (BBC east small tiles TAC)
Entries 435024
TAC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

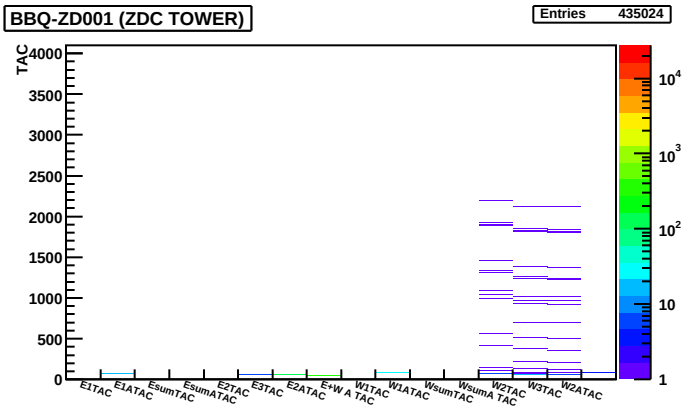

BBQ-BB002 (BBC west small tiles ADC)
Entries 435024
ADC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

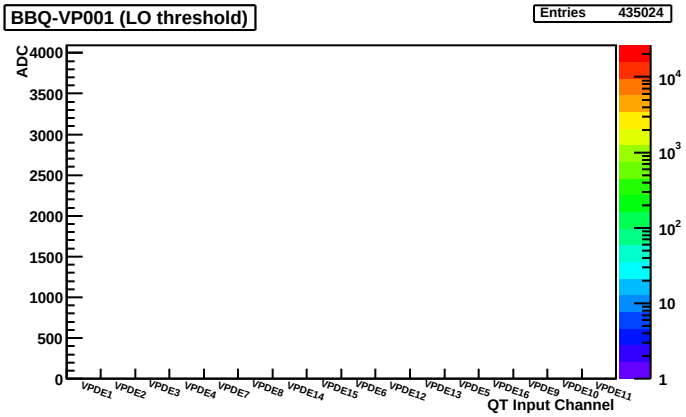

BBQ-BB002 (BBC west small tiles TAC)
Entries 435024
TAC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

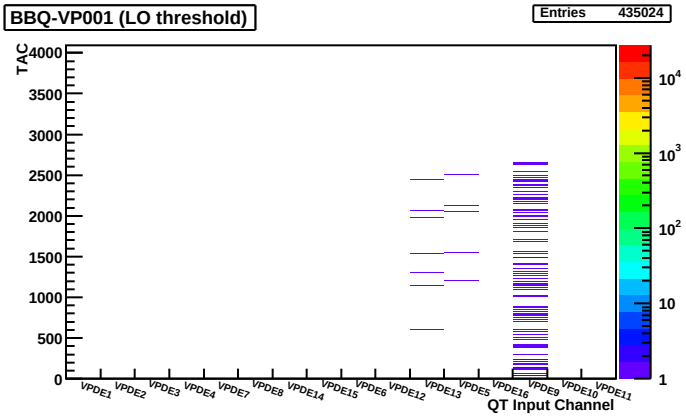

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 435024
ADC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

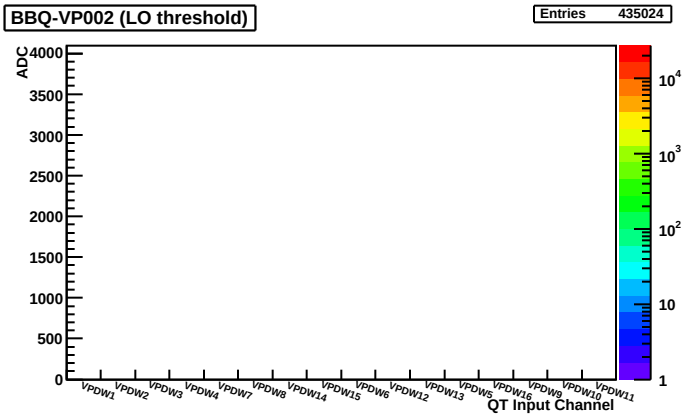

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 435024
TAC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

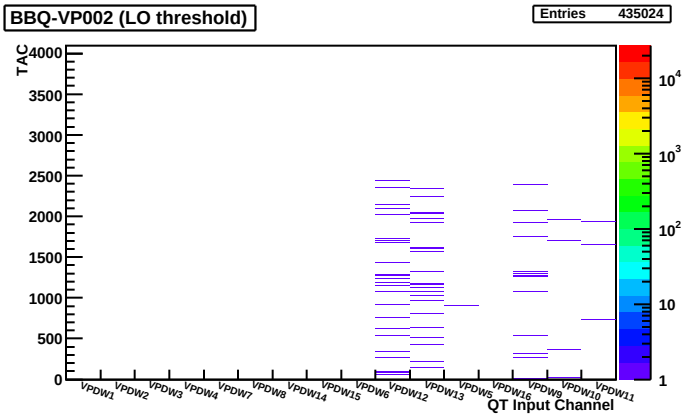

BBQ-ZD001 (ZDC TOWER)
Entries 435024
ADC
E1 E1A Esum EsumA E2 E3 E2A E+W A W1 W1A Wsum WsumA W2 W3 W2A

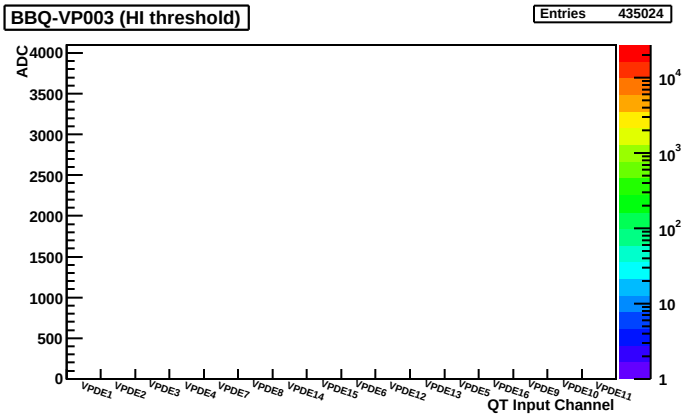

BBQ-ZD001 (ZDC TOWER)
Entries 435024
TAC
E1TAC E1ATAC EsumTAC EsumATAC E2TAC E3TAC E2ATAC E+W A TAC W1TAC W1ATAC WsumTAC WsumA TAC W2TAC W3TAC W2ATAC

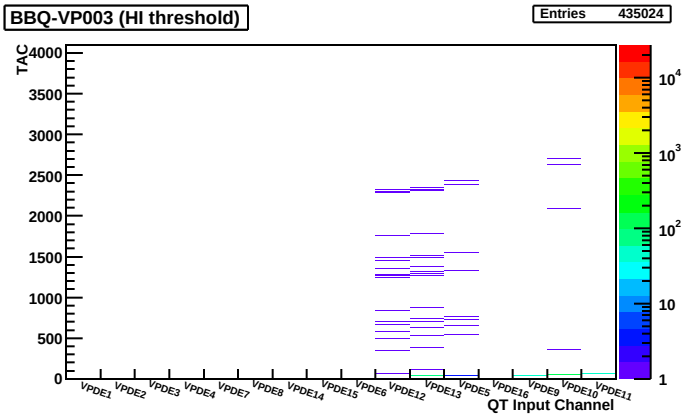

BBQ-VP001 (LO threshold)
Entries 435024
ADC
QT Input Channel

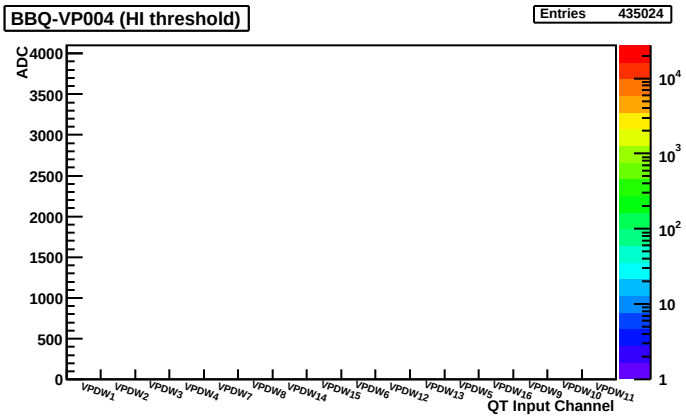

BBQ-VP001 (LO threshold)
Entries 435024
TAC
QT Input Channel

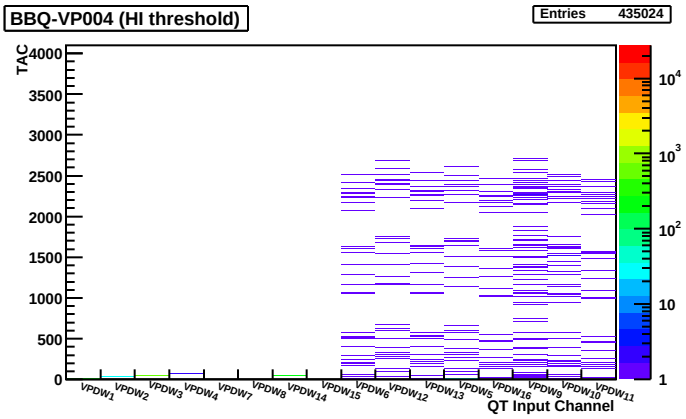

BBQ-VP002 (LO threshold)
Entries 435024
ADC
QT Input Channel

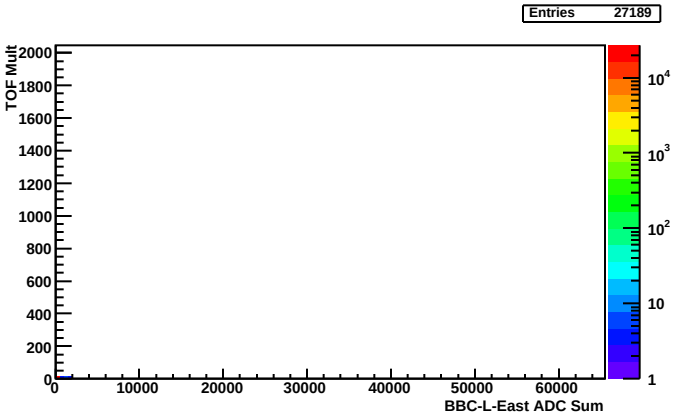

BBQ-VP002 (LO threshold)
Entries 435024
TAC
QT Input Channel

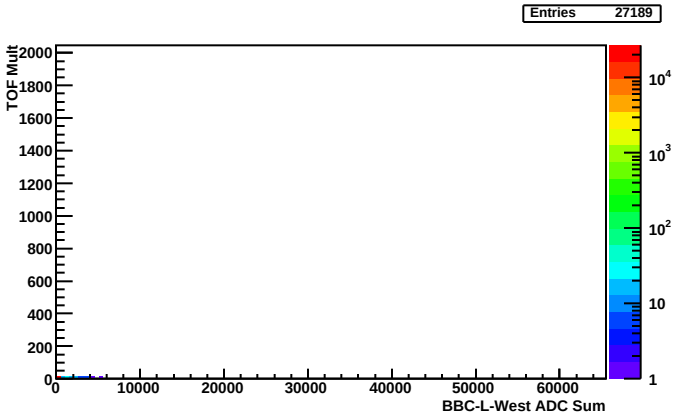

BBQ-VP003 (HI threshold)
Entries 435024
ADC
QT Input Channel

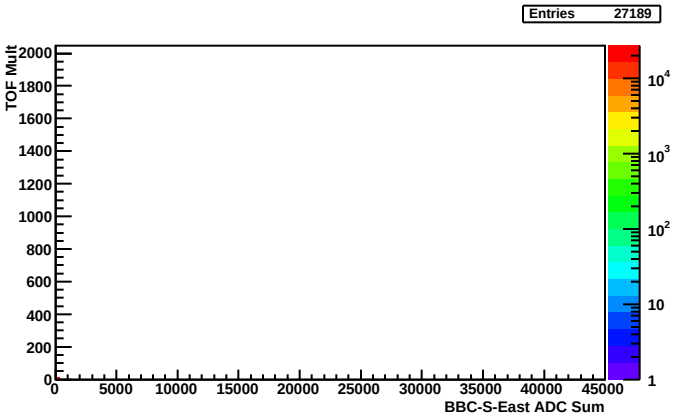

BBQ-VP003 (HI threshold)
Entries 435024
TAC
QT Input Channel

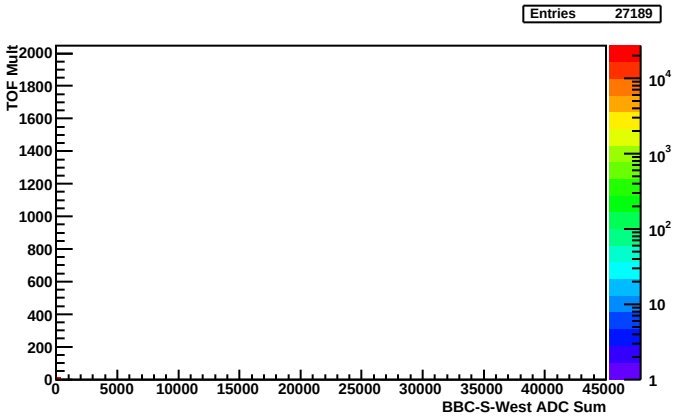

BBQ-VP004 (HI threshold)
Entries 435024
ADC
QT Input Channel

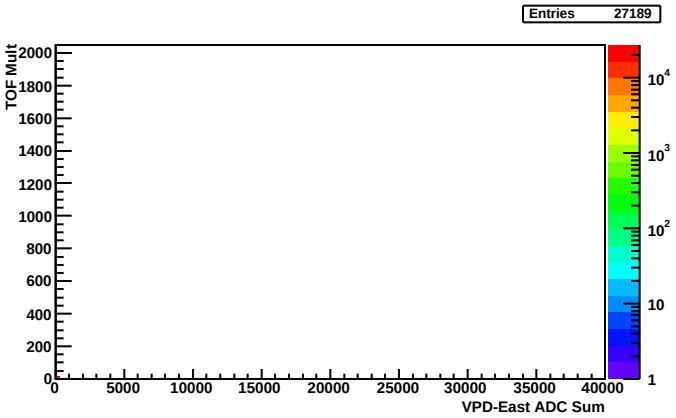

BBQ-VP004 (HI threshold)
Entries 435024
TAC
QT Input Channel

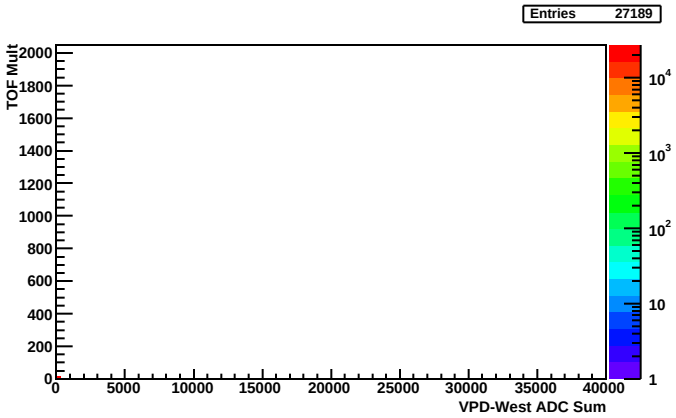

Entries 27189
TOF Mult
BBC-L-East ADC Sum

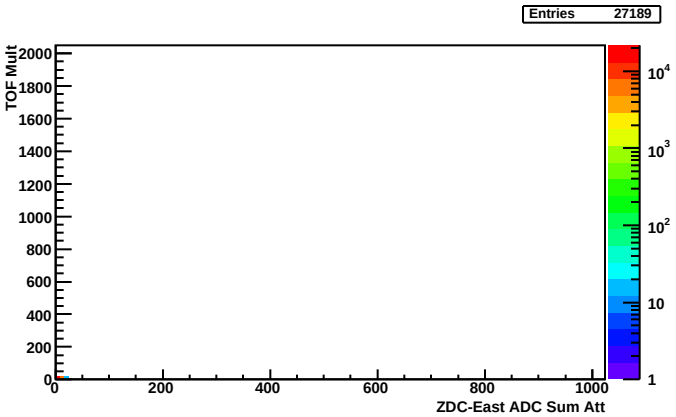

Entries 27189
TOF Mult
BBC-L-West ADC Sum

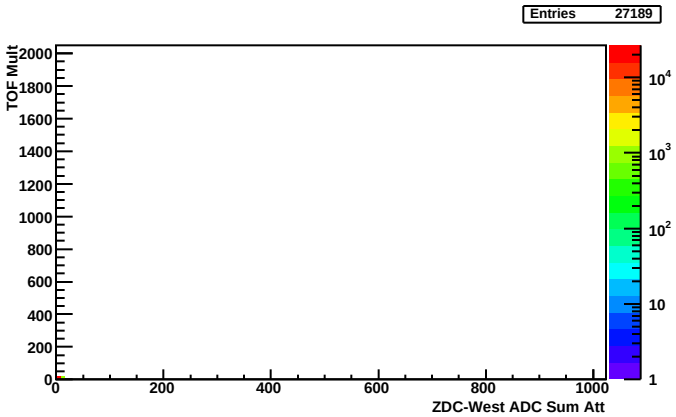

Entries 27189
TOF Mult
BBC-S-East ADC Sum

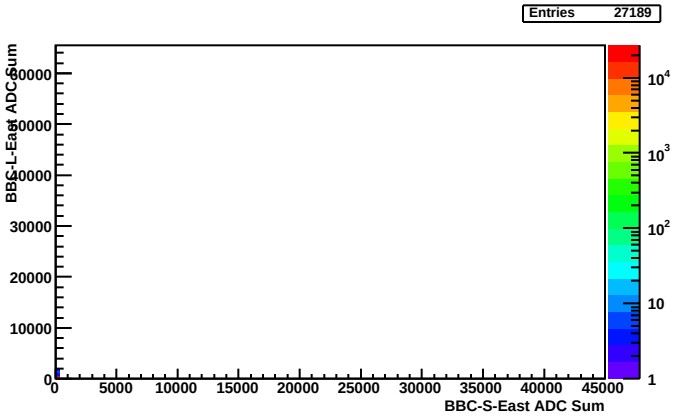

Entries 27189
TOF Mult
BBC-S-West ADC Sum

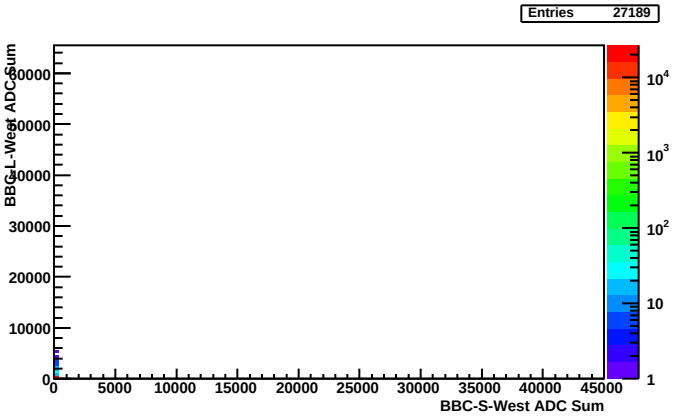

Entries 27189
TOF Mult
VPD-East ADC Sum

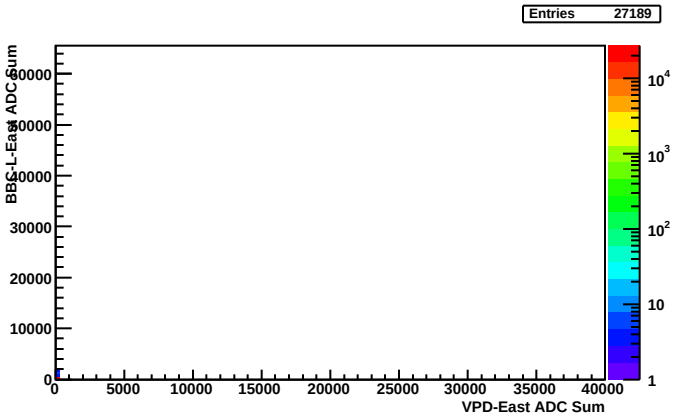

Entries 27189
TOF Mult
VPD-West ADC Sum

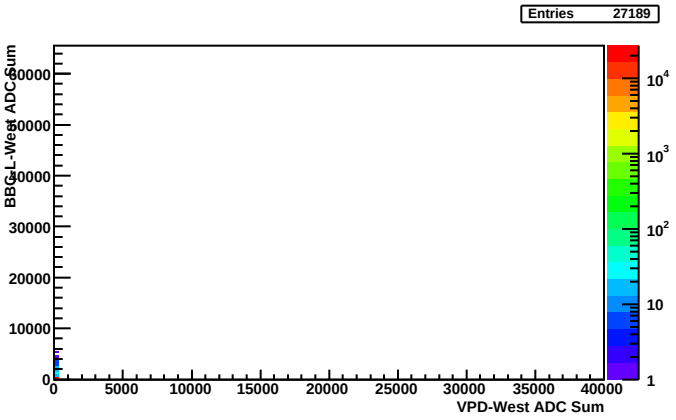

Entries 27189
TOF Mult
ZDC-East ADC Sum Att

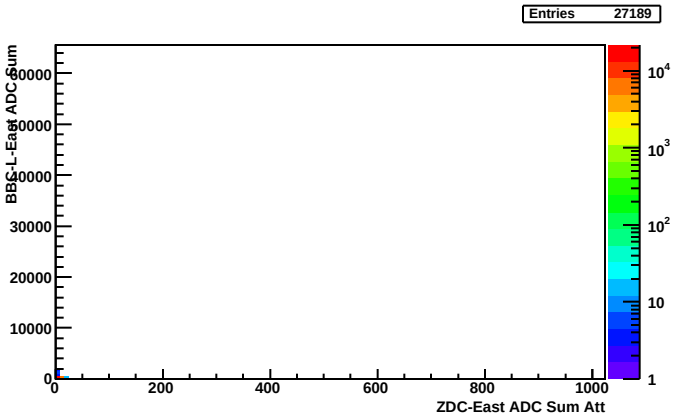

Entries 27189
TOF Mult
ZDC-West ADC Sum Att

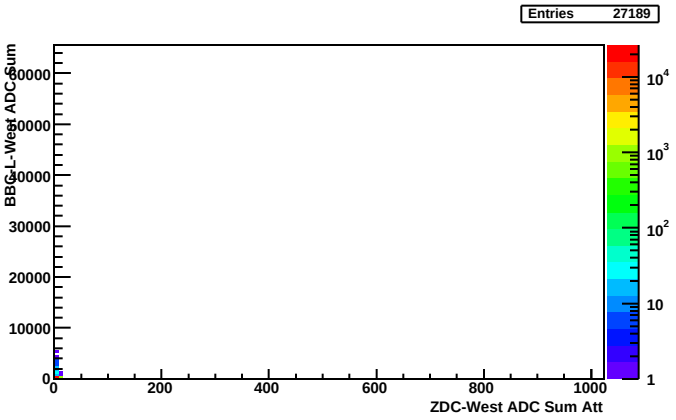

Entries 27189
BBC-L-East ADC Sum
BBC-S-East ADC Sum

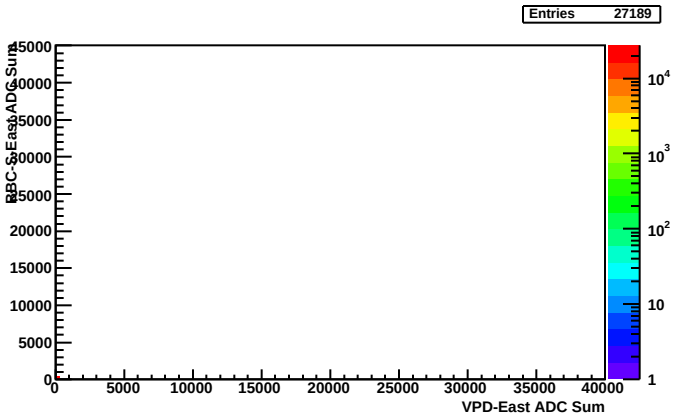

Entries 27189
BBC-L-West ADC Sum
BBC-S-West ADC Sum

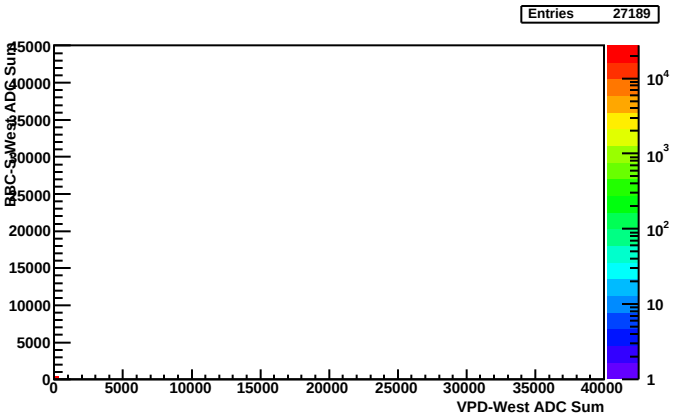

Entries 27189
BBC-L-East ADC Sum
VPD-East ADC Sum

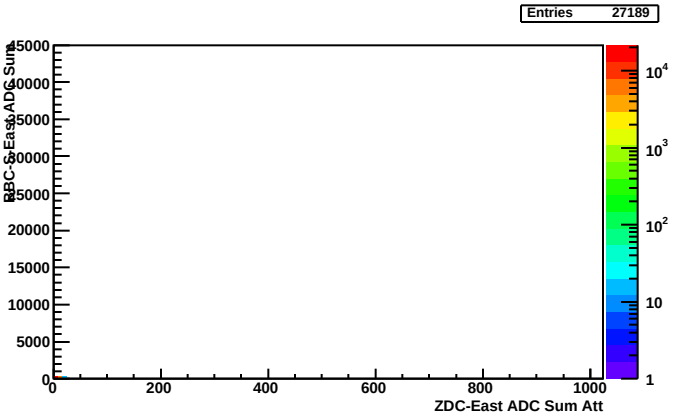

Entries 27189
BBC-L-West ADC Sum
VPD-West ADC Sum

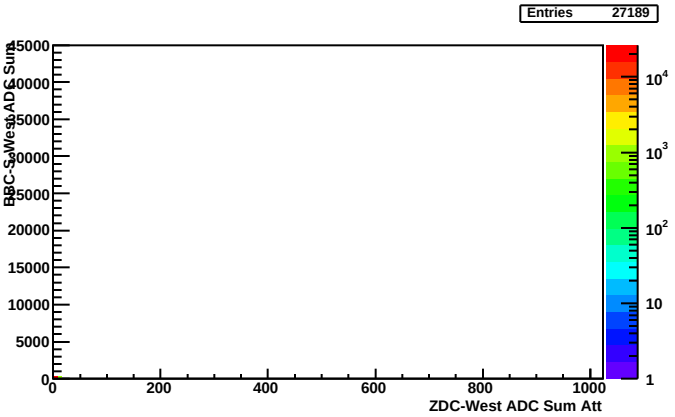

Entries 27189
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

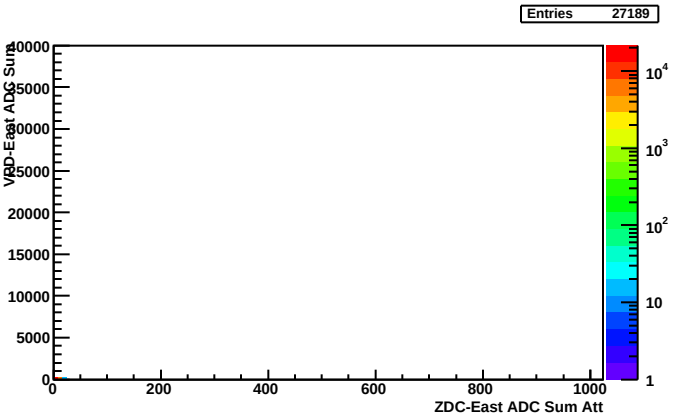

Entries 27189
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

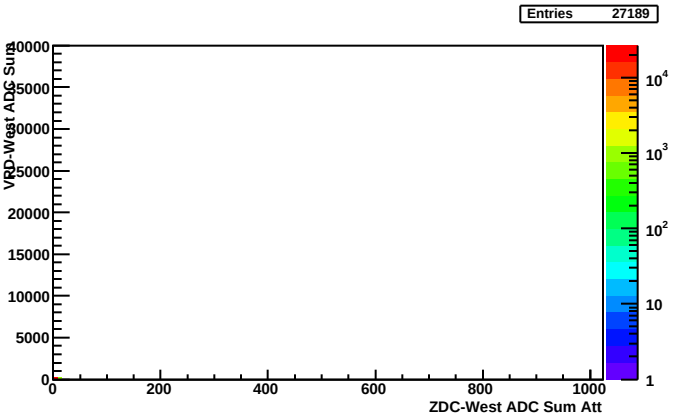

Entries 27189
BBC-S-East ADC Sum
VPD-East ADC Sum

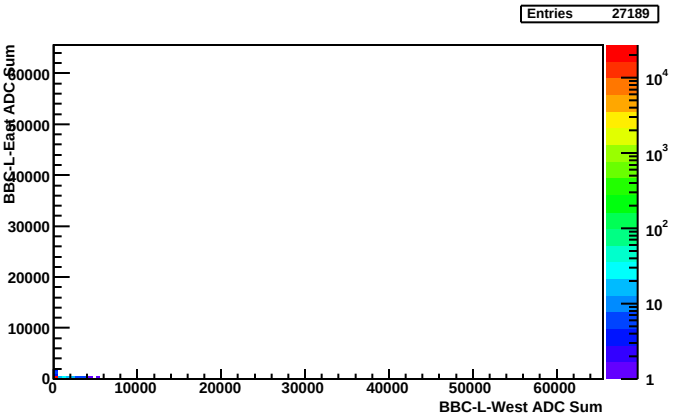

Entries 27189
BBC-S-West ADC Sum
VPD-West ADC Sum

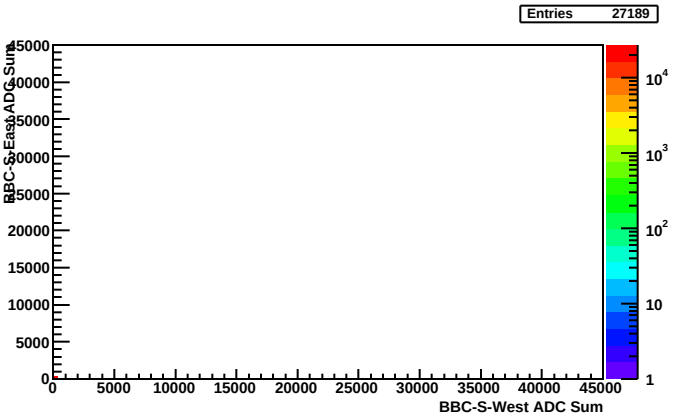

Entries 27189
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

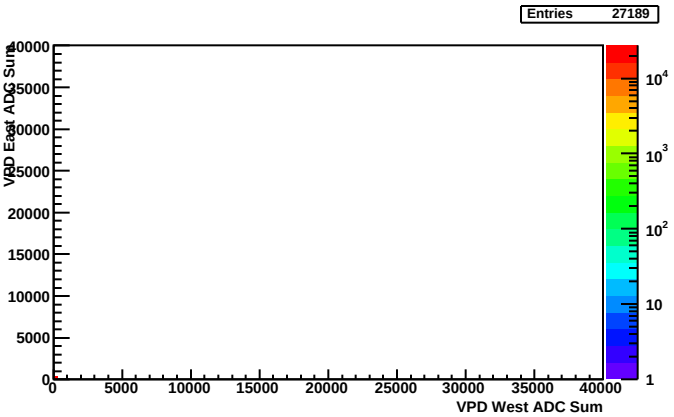

Entries 27189
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

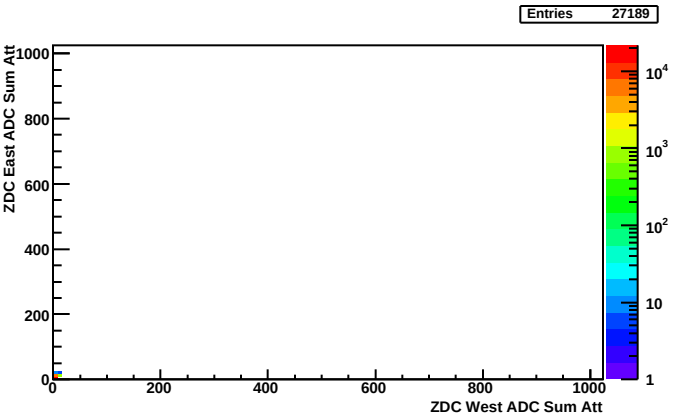

Entries 27189
VPD-East ADC Sum
ZDC-East ADC Sum Att

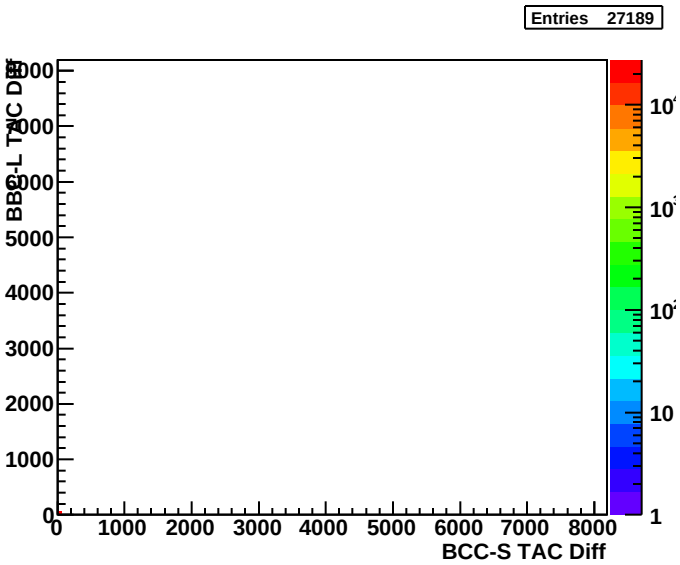

Entries 27189
VPD-West ADC Sum
ZDC-West ADC Sum Att

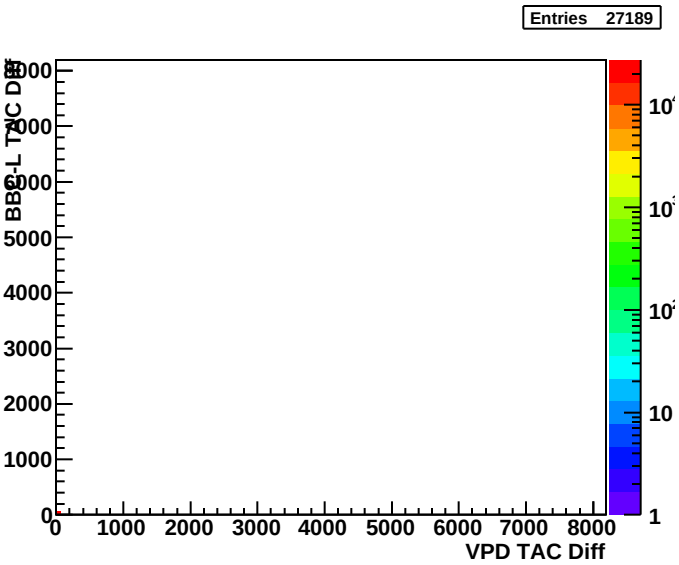

Entries 27189
BBC-L-East ADC Sum
BBC-L-West ADC Sum

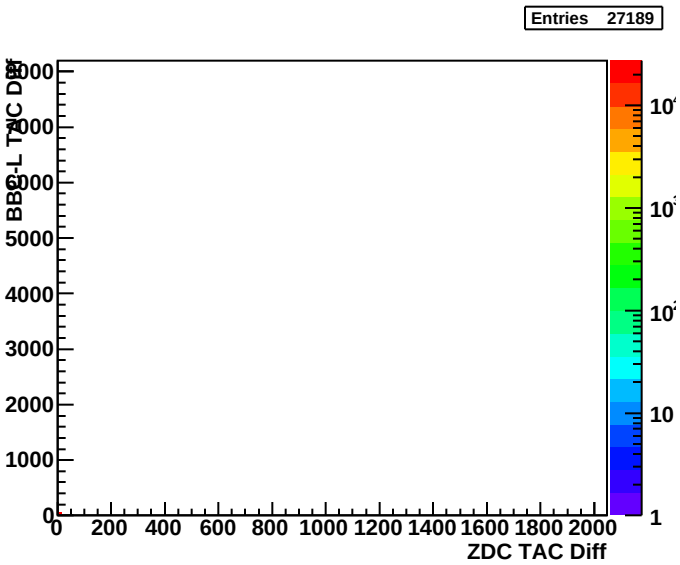

Entries 27189
BBC-S-East ADC Sum
BBC-S-West ADC Sum

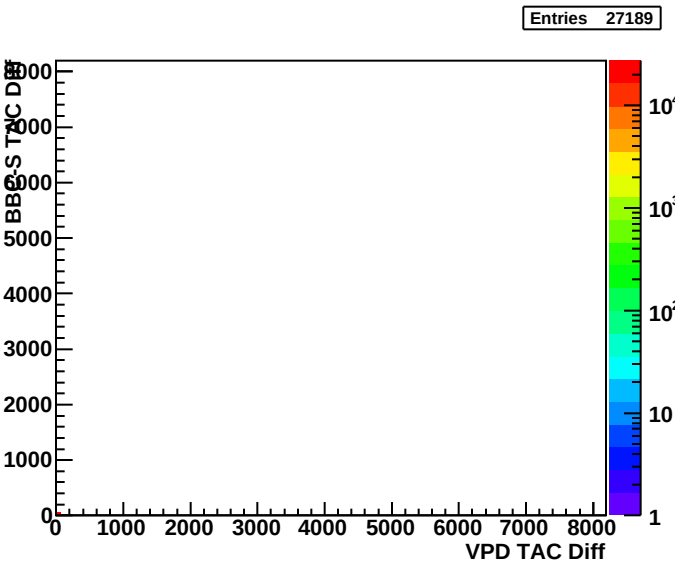

Entries 27189
VPD East ADC Sum
VPD West ADC Sum

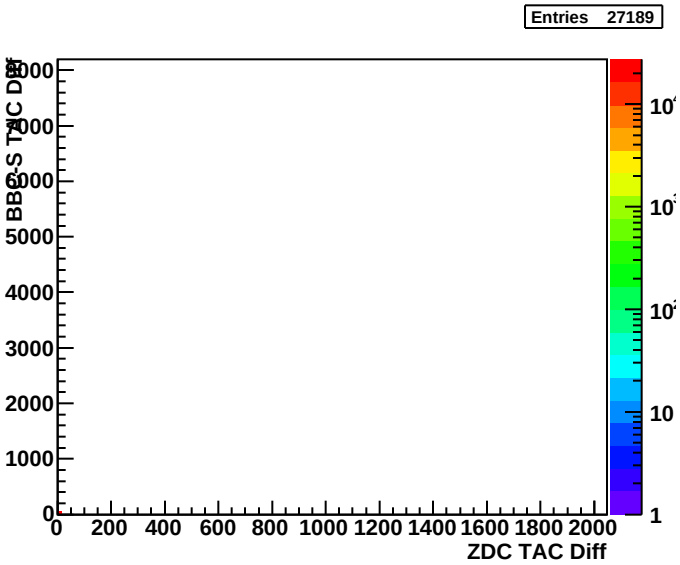

Entries 27189
ZDC East ADC Sum Att
ZDC West ADC Sum Att

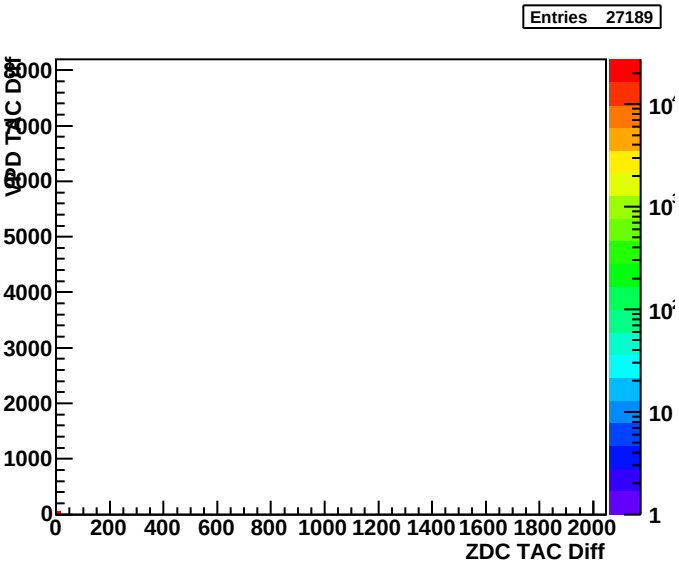

Entries 27189
BBC-L TAC Diff
BCC-S TAC Diff

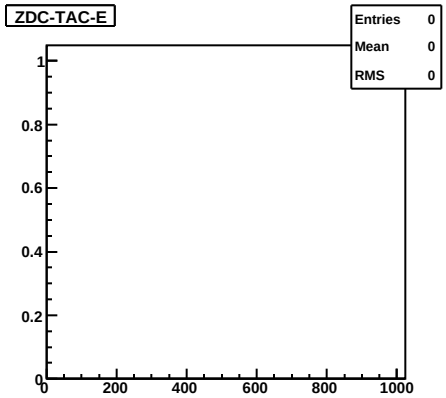

Entries 27189
BBC-L TAC Diff
VPD TAC Diff

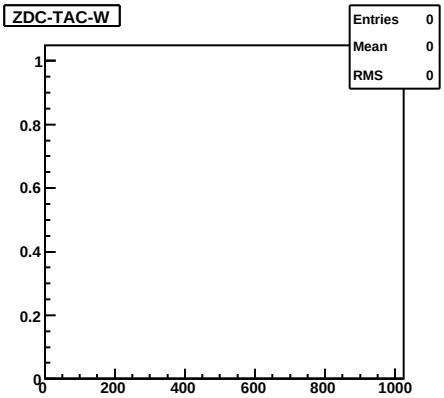

Entries 27189
BBC-L TAC Diff
ZDC TAC Diff

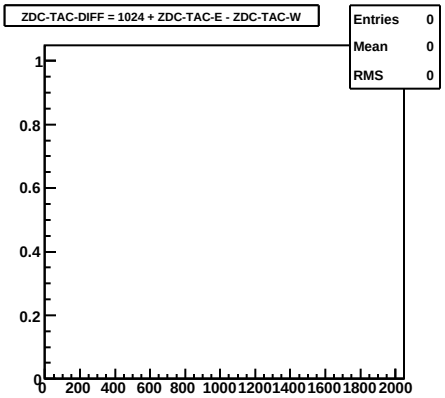

Entries 27189
BBC-S TAC Diff
VPD TAC Diff

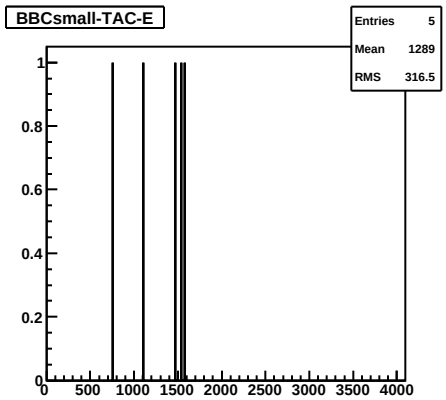

Entries 27189
BBC-S TAC Diff
ZDC TAC Diff

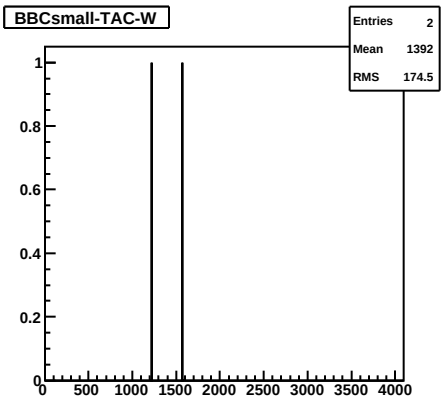

Entries 27189
VPD TAC Diff
ZDC TAC Diff

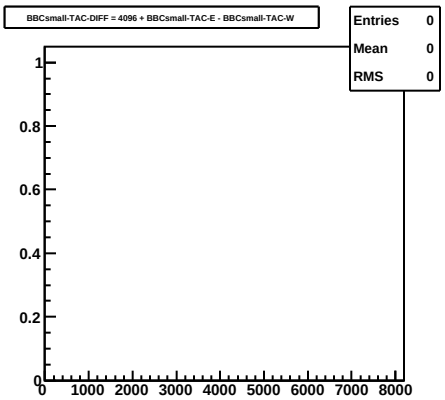

ZDC-TAC-E
Entries 0
Mean 0
RMS 0

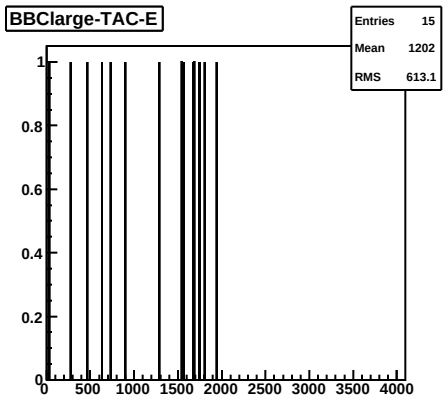

ZDC-TAC-W
Entries 0
Mean 0
RMS 0

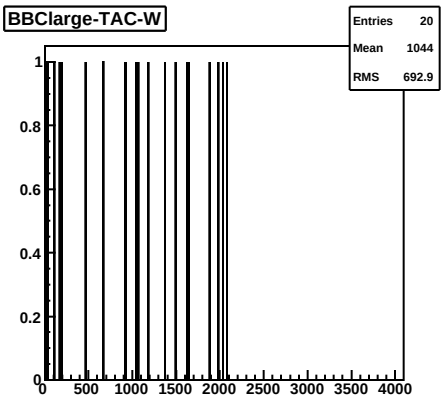

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 0
Mean 0
RMS 0

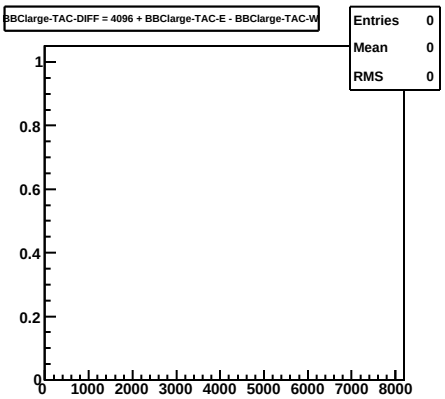

BBCsmall-TAC-E
Entries 5
Mean 1289
RMS 316.5

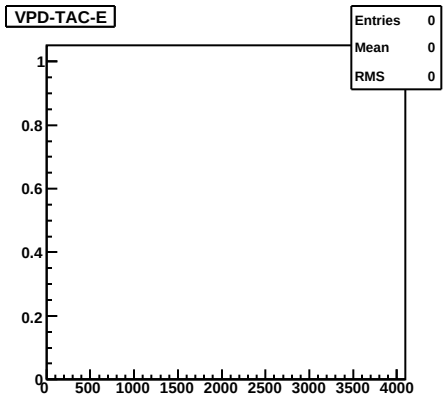

BBCsmall-TAC-W
Entries 2
Mean 1392
RMS 174.5

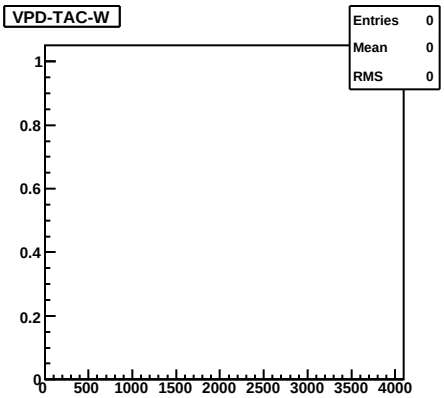

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 0
Mean 0
RMS 0

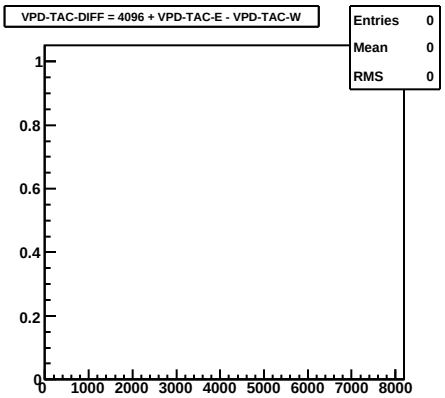

BBClarge-TAC-E
Entries 15
Mean 1202
RMS 613.1

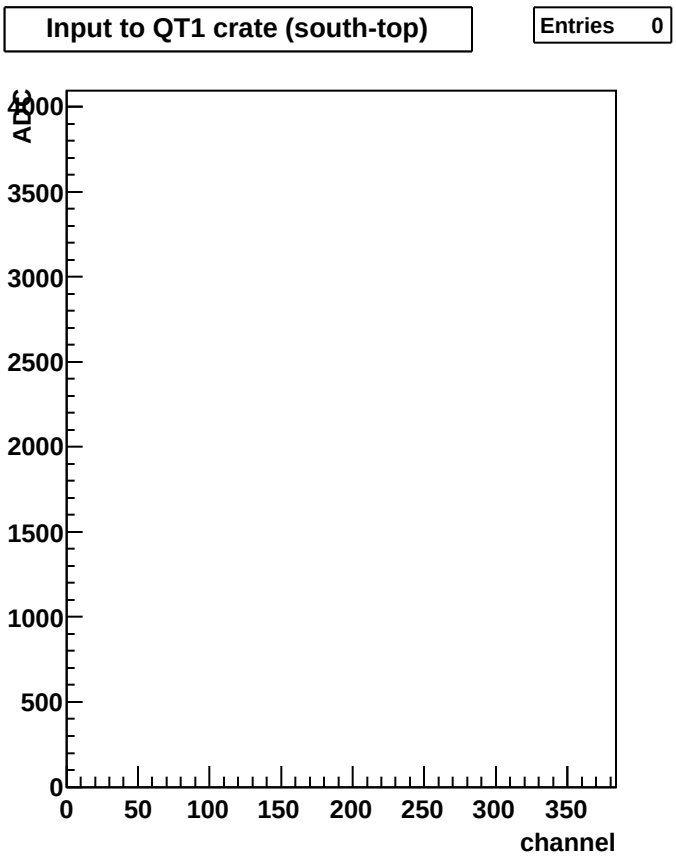

BBClarge-TAC-W
Entries 20
Mean 1044
RMS 692.9

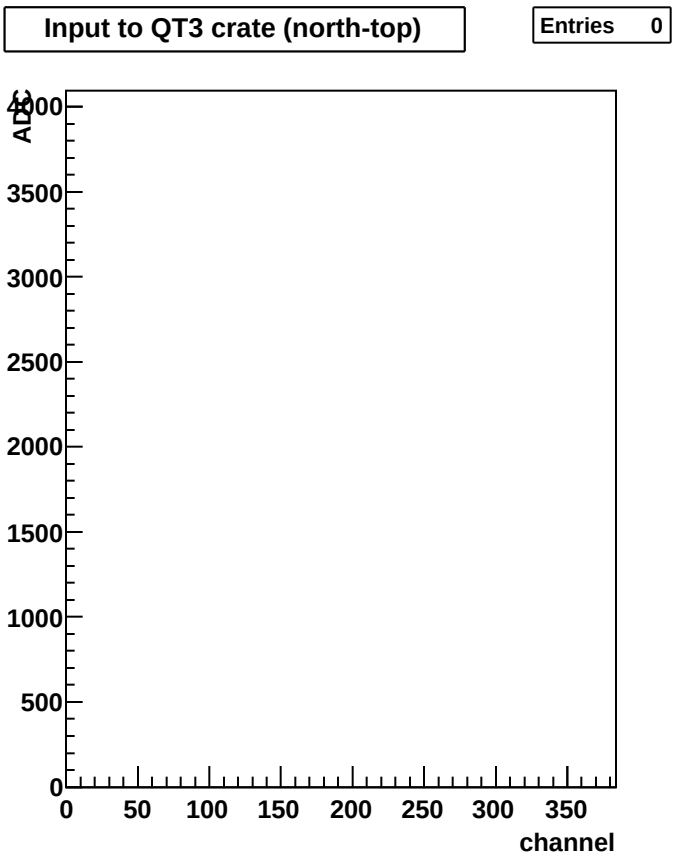

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 0
Mean 0
RMS 0

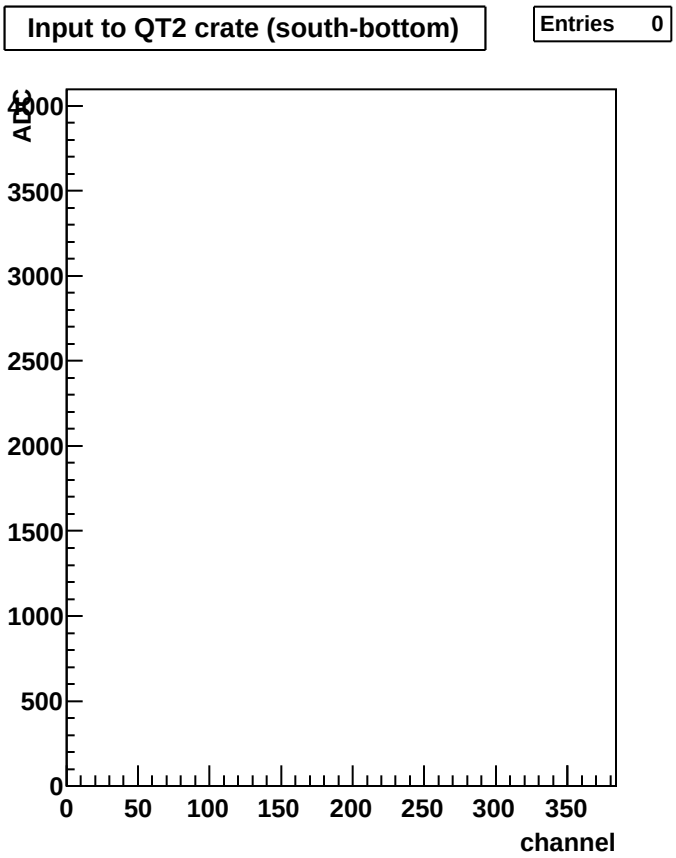

VPD-TAC-E
Entries 0
Mean 0
RMS 0

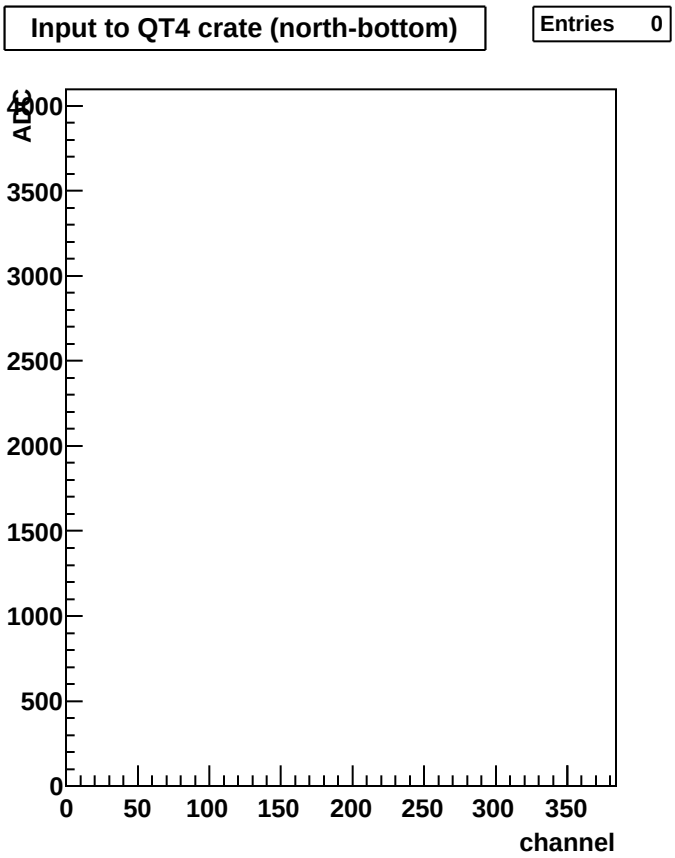

VPD-TAC-W
Entries 0
Mean 0
RMS 0

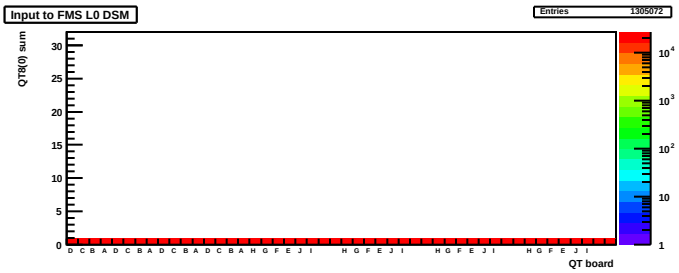

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 0
Mean 0
RMS 0

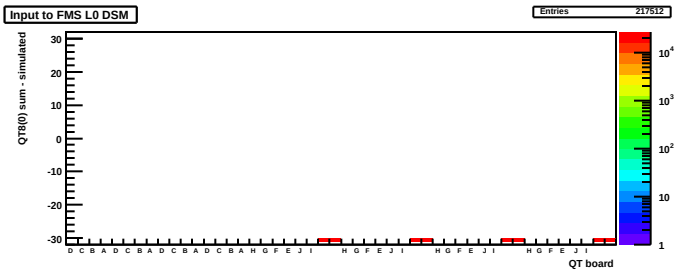

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

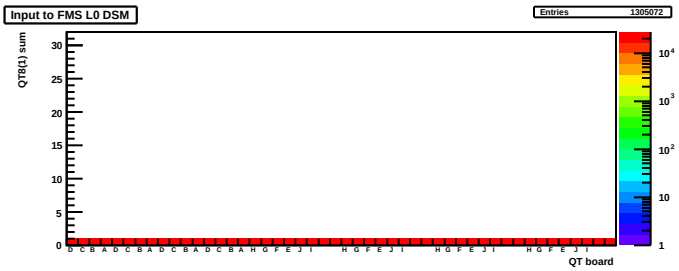

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

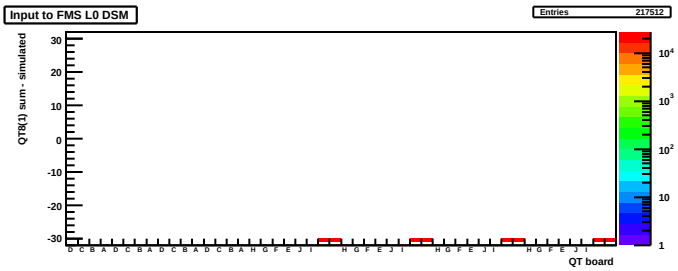

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

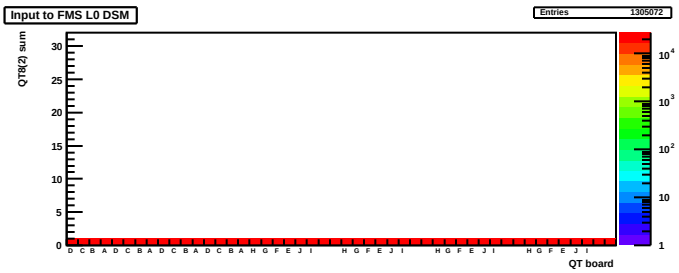

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

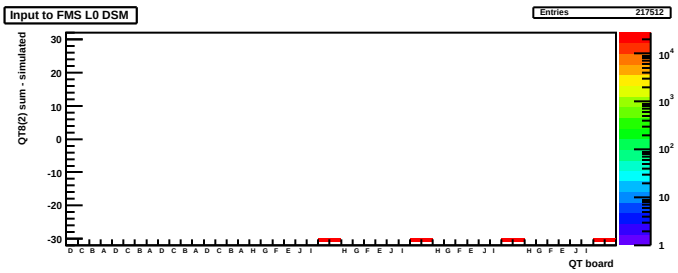

Input to FMS L0 DSM
Entries 1305072
QT8(0) sum
QT board

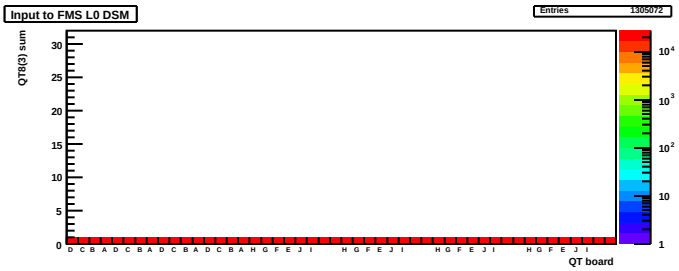

Input to FMS L0 DSM
Entries 217512
QT8(0) sum - simulated
QT board

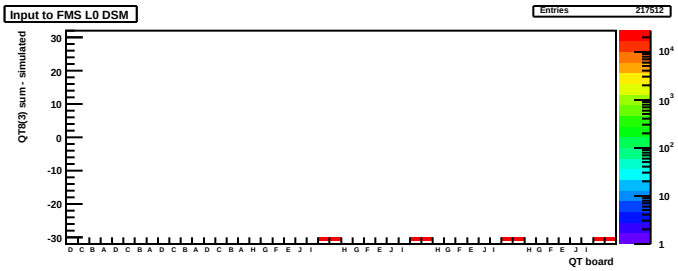

Input to FMS L0 DSM
Entries 1305072
QT8(1) sum
QT board

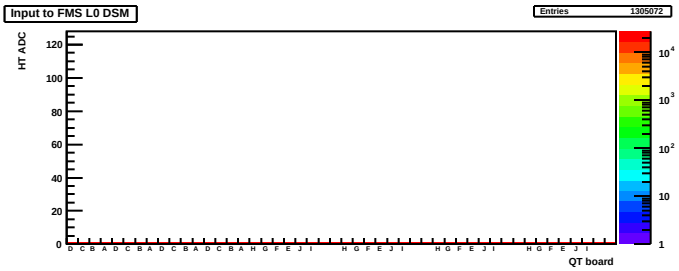

Input to FMS L0 DSM
Entries 217512
QT8(1) sum - simulated
QT board

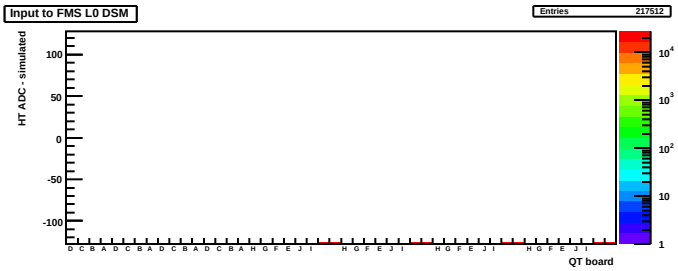

Input to FMS L0 DSM
Entries 1305072
QT8(2) sum
QT board

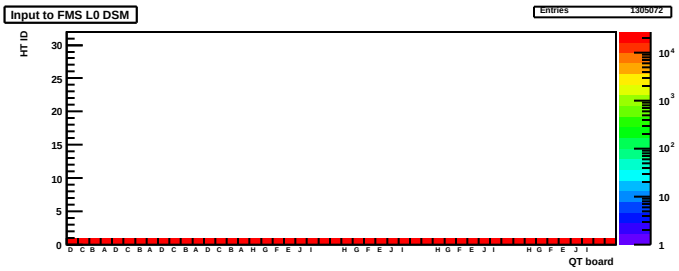

Input to FMS L0 DSM
Entries 217512
QT8(2) sum - simulated
QT board

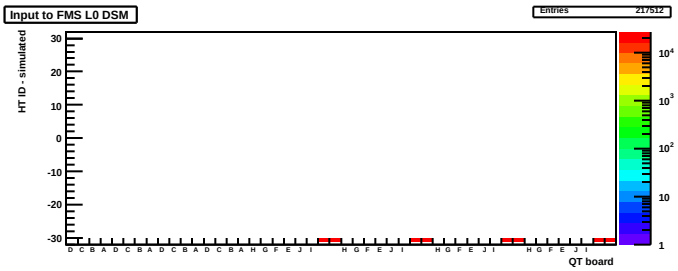

Input to FMS L0 DSM
Entries 1305072
QT8(3) sum
QT board

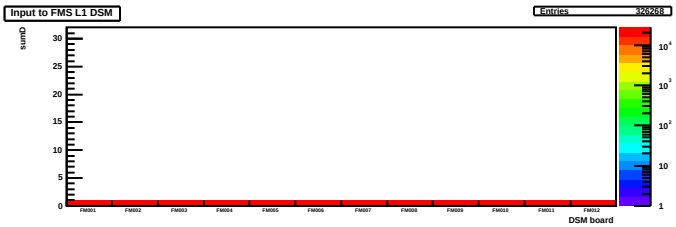

Input to FMS L0 DSM
Entries 217512
QT8(3) sum - simulated
QT board

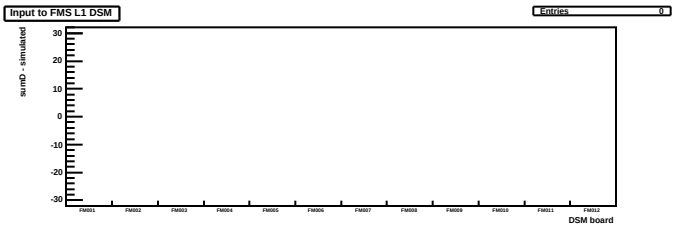

Input to FMS L0 DSM
Entries 1305072
HT ADC
QT board

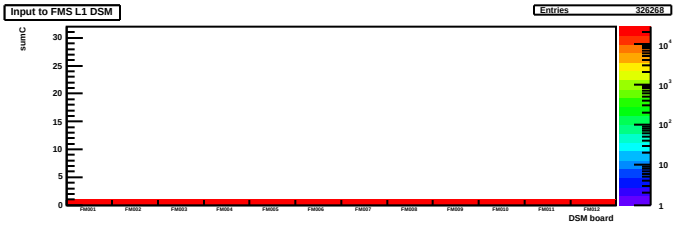

Input to FMS L0 DSM
Entries 217512
HT ADC - simulated
QT board

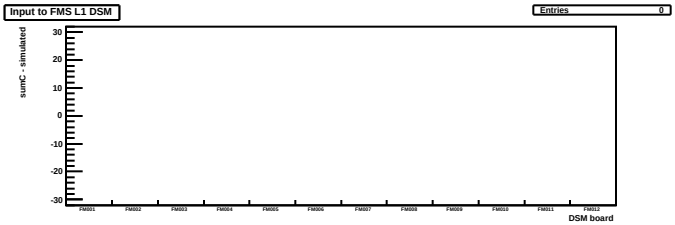

Input to FMS L0 DSM
Entries 1305072
HT ID
QT board

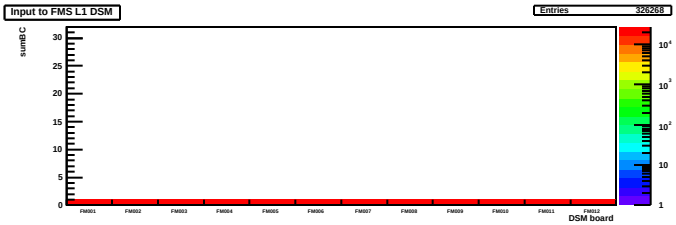

Input to FMS L0 DSM
Entries 217512
HT ID - simulated
QT board

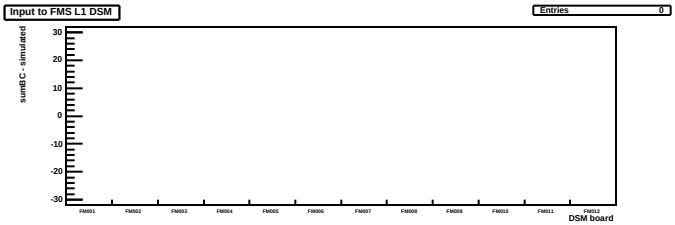

Input to FMS L1 DSM
Entries 326268
sumD
DSM board

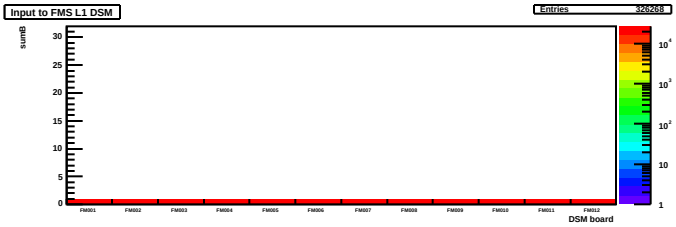

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

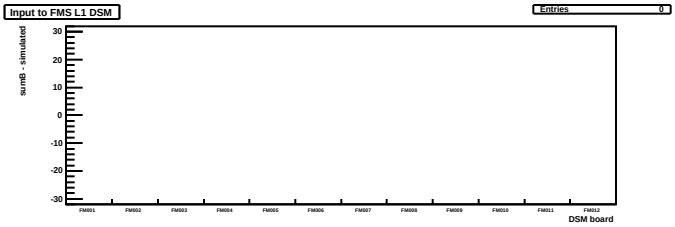

Input to FMS L1 DSM
Entries 326268
sumC
DSM board

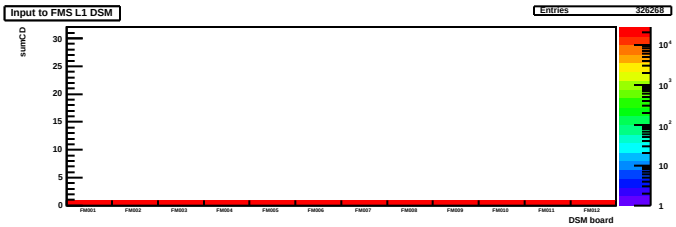

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

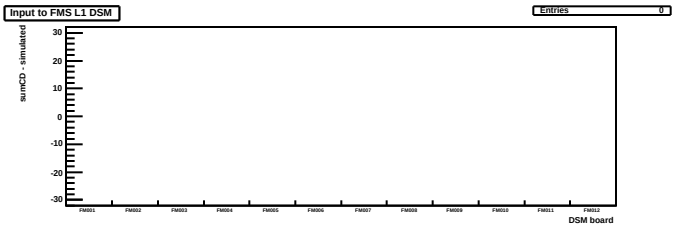

Input to FMS L1 DSM
Entries 326268
sumBC
DSM board

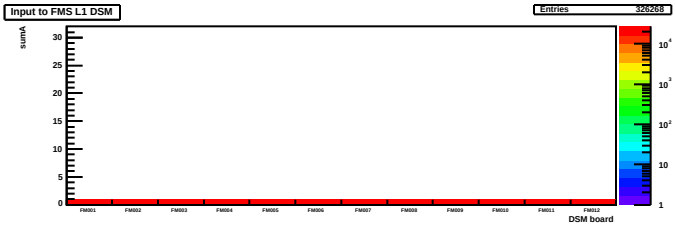

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

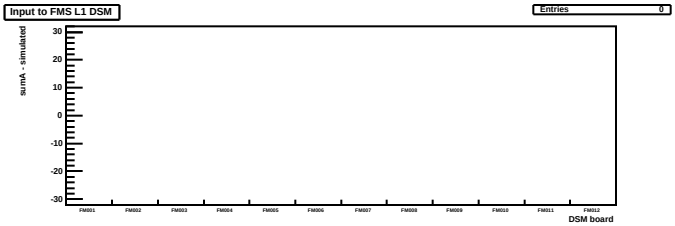

Input to FMS L1 DSM
Entries 326268
sumB
DSM board

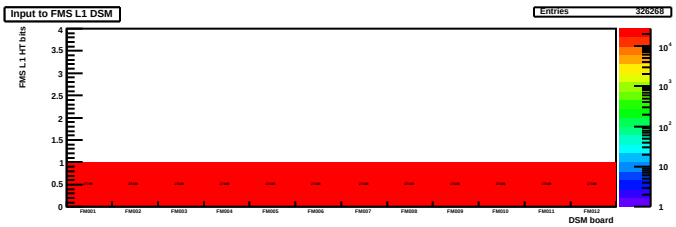

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

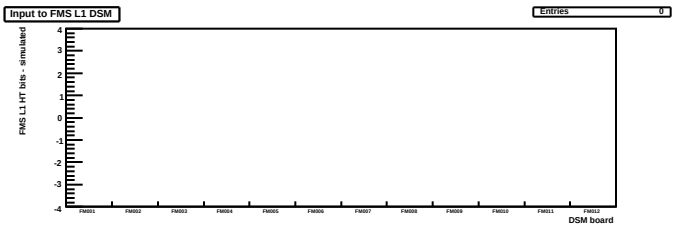

Input to FMS L1 DSM
Entries 326268
sumCD
DSM board

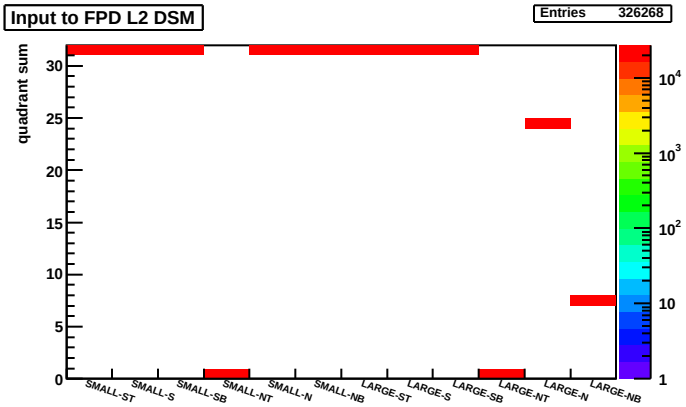

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

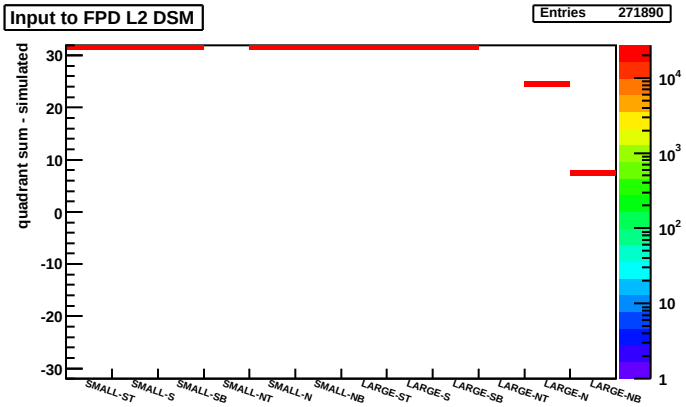

Input to FMS L1 DSM
Entries 326268
sumA
DSM board

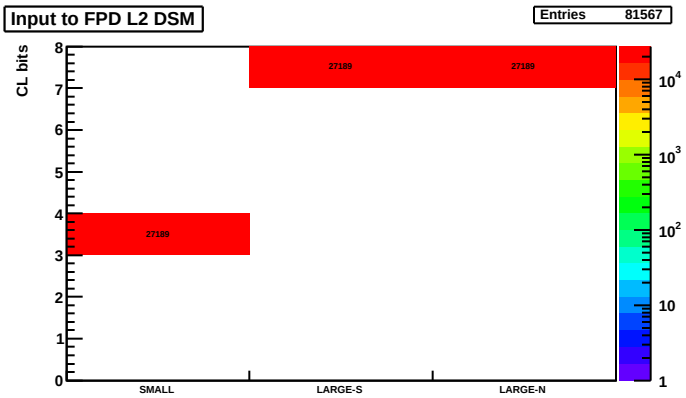

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

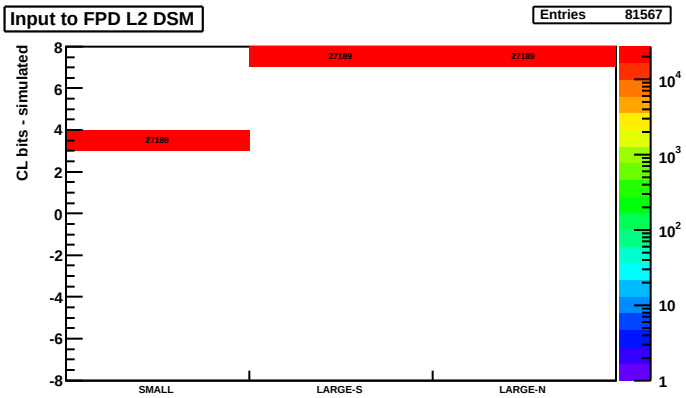

Input to FMS L1 DSM
Entries 326268
FMS L1 HT bits
DSM board

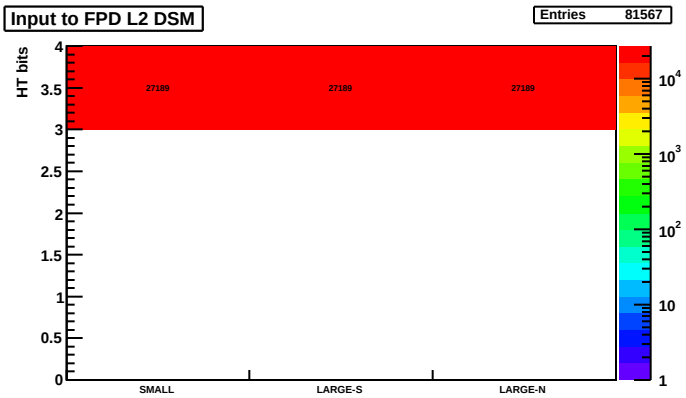

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

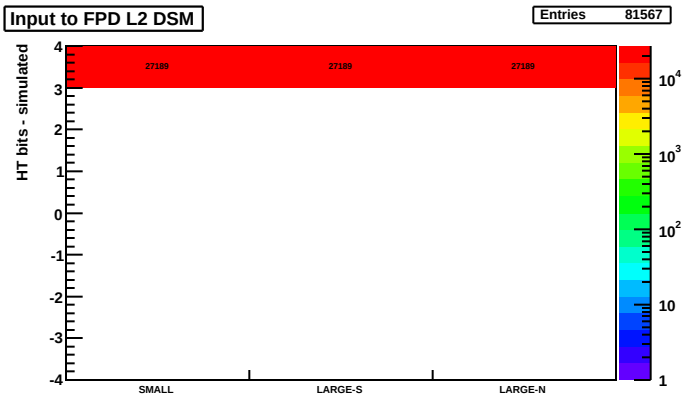

Input to FPD L2 DSM
Entries 326268
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

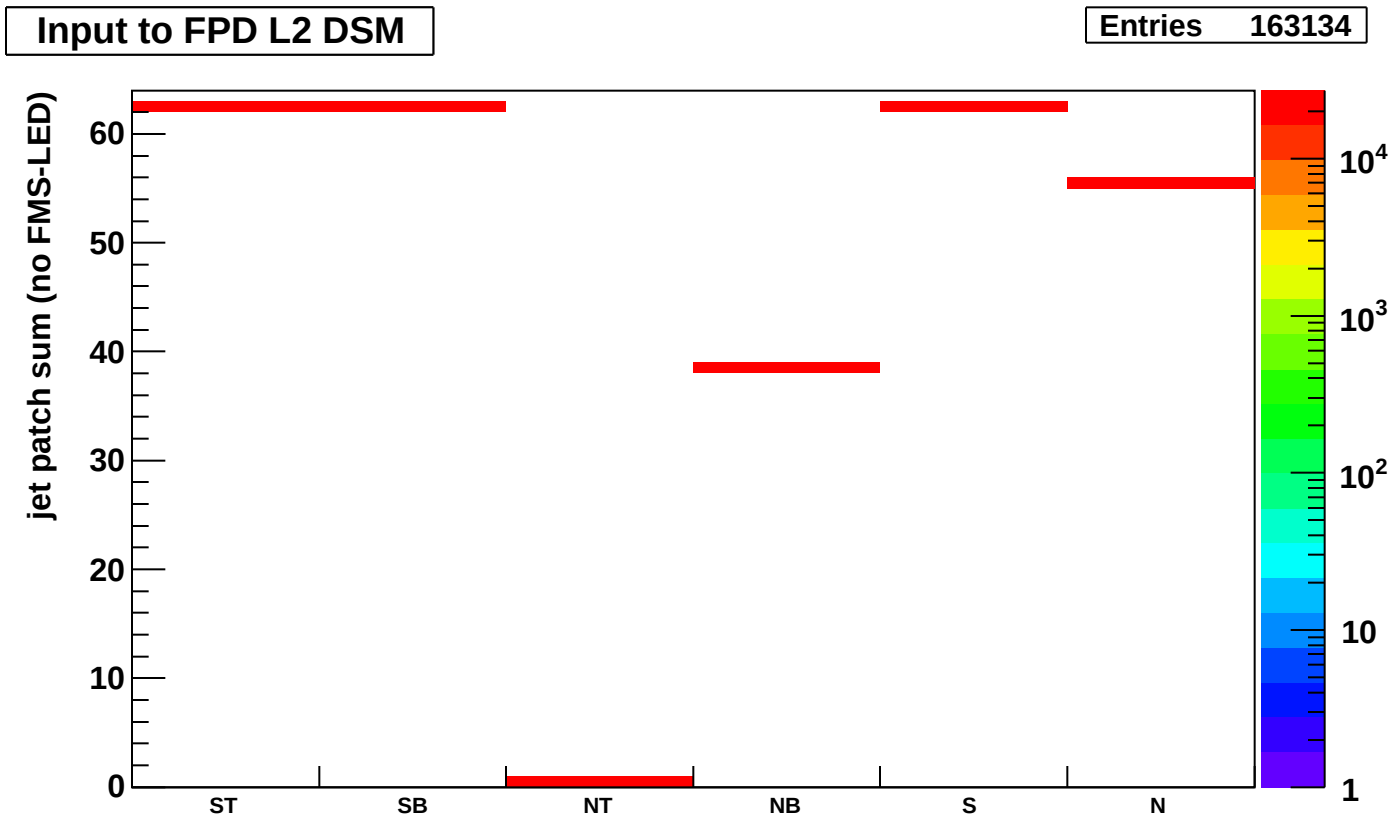

Input to FPD L2 DSM
Entries 271890
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

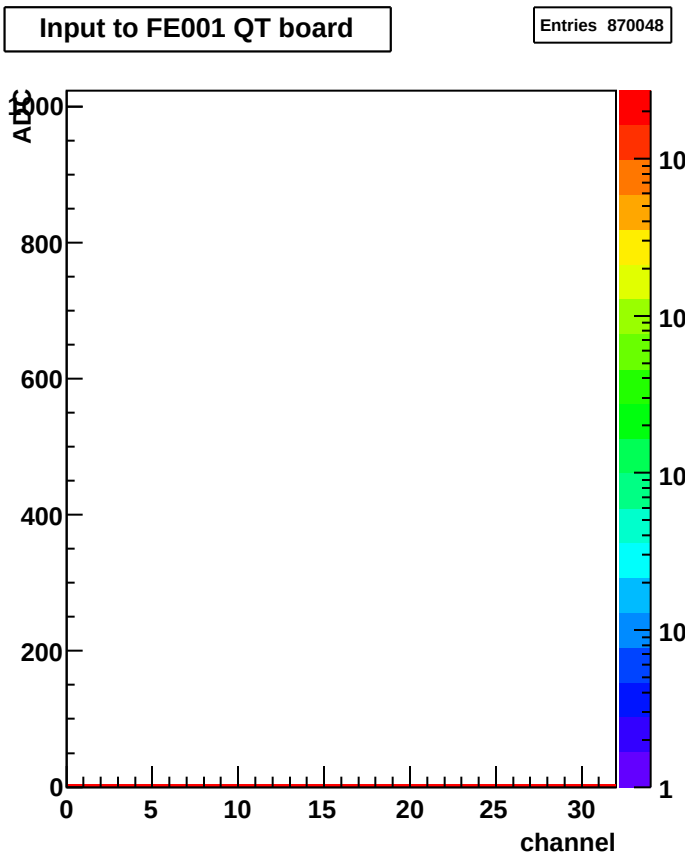

Input to FPD L2 DSM
Entries 81567
CL bits
27189
27189
27189
SMALL
LARGE-S
LARGE-N

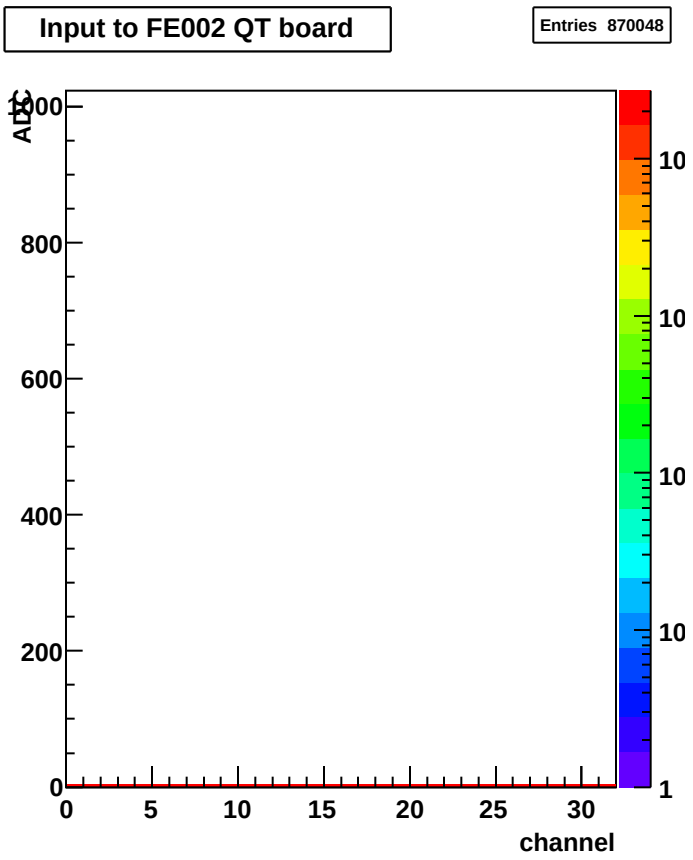

Input to FPD L2 DSM
Entries 81567
CL bits - simulated
27189
27189
27189
SMALL
LARGE-S
LARGE-N

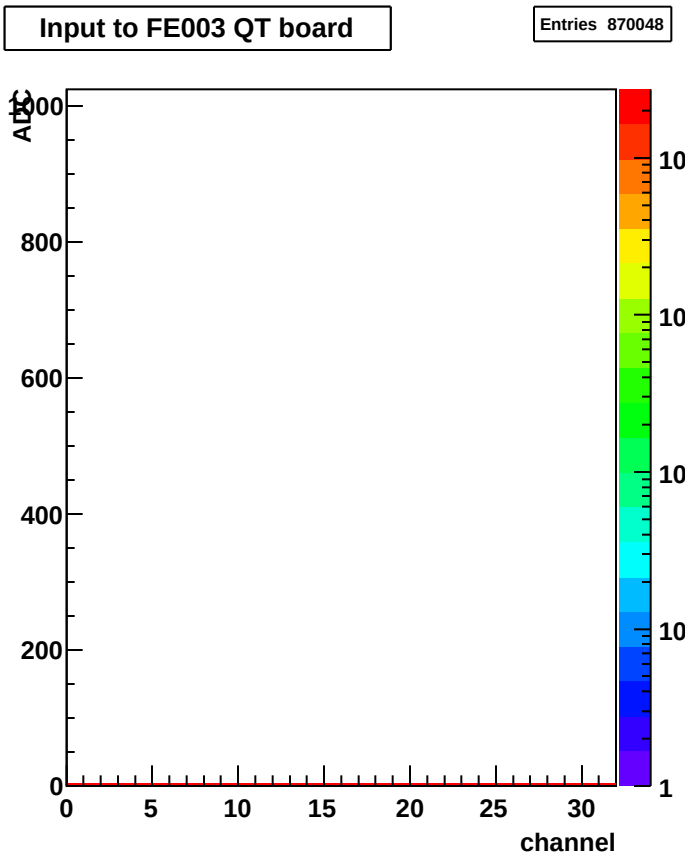

Input to FPD L2 DSM
Entries 81567
HT bits
27189
27189
27189
SMALL
LARGE-S
LARGE-N

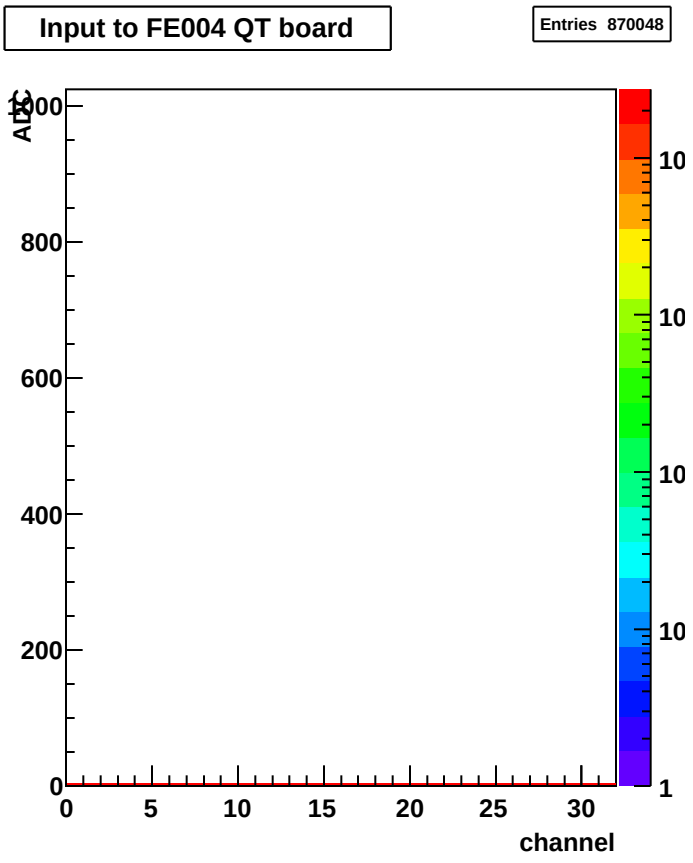

Input to FPD L2 DSM
Entries 81567
HT bits - simulated
27189
27189
27189
SMALL
LARGE-S
LARGE-N

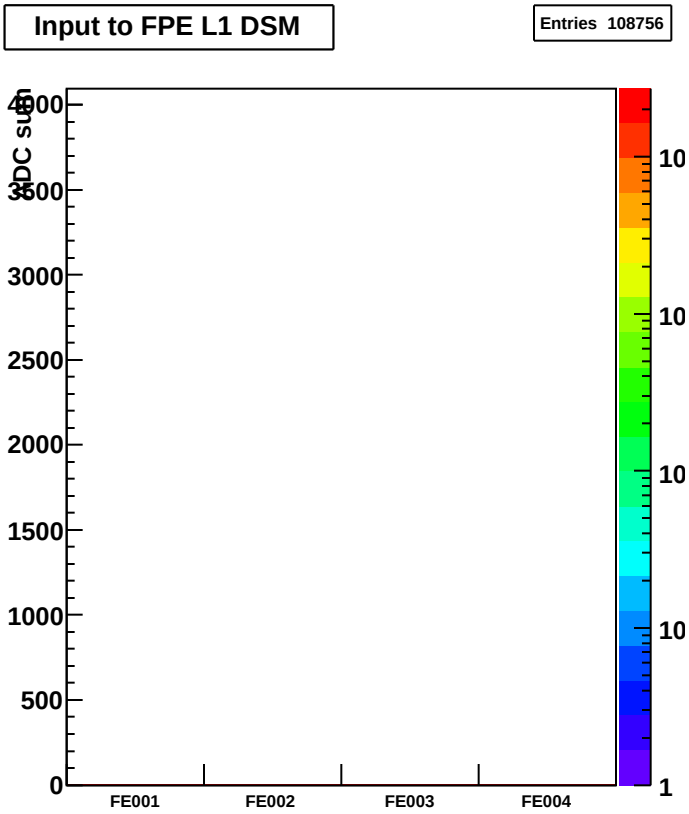

Input to FPD L2 DSM
Entries 163134
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
$10^2$
$10^3$
$10^4$

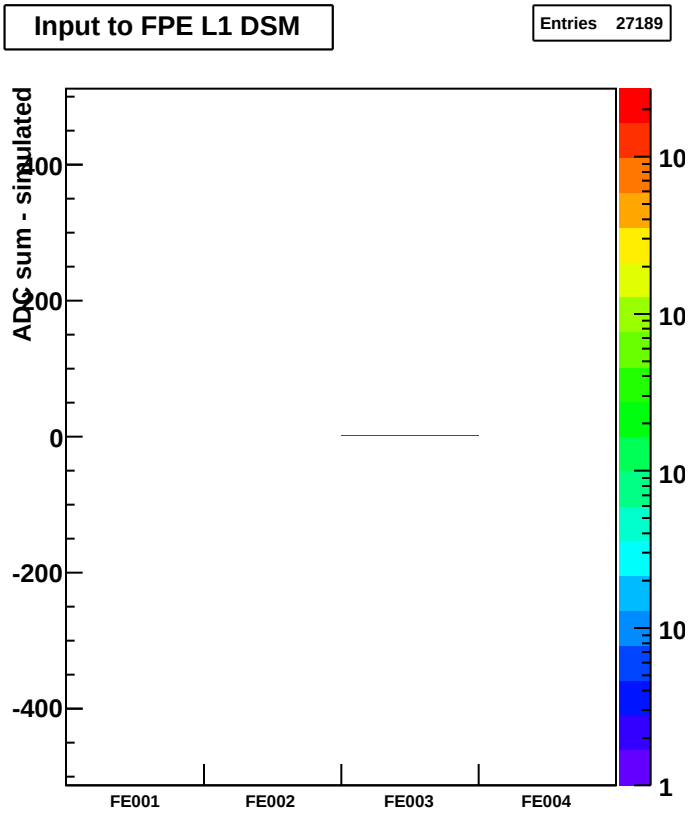

Input to FE001 QT board
Entries 870048
ADC
channel

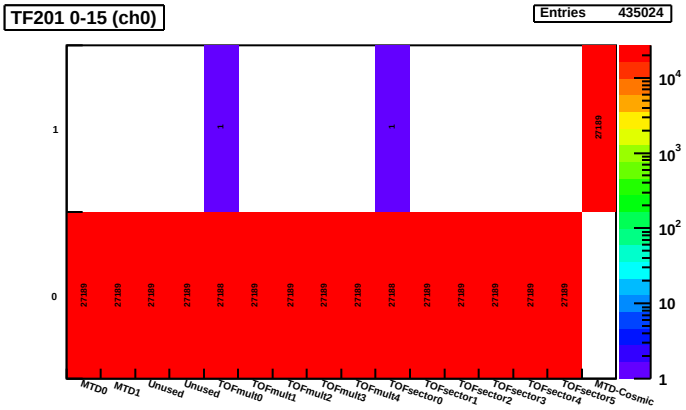

Input to FE002 QT board
Entries 870048
ADC
channel

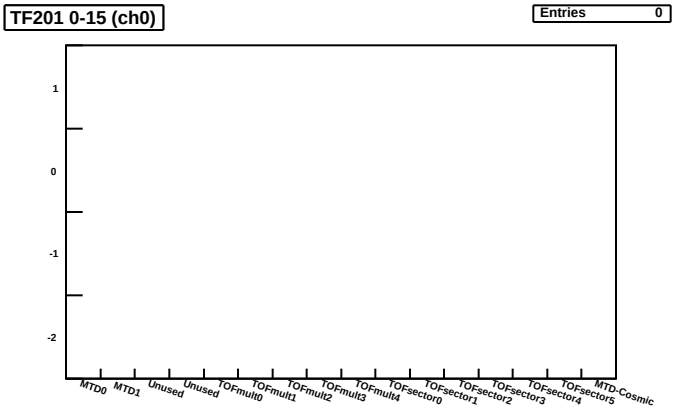

Input to FE003 QT board
Entries 870048
ADC
channel

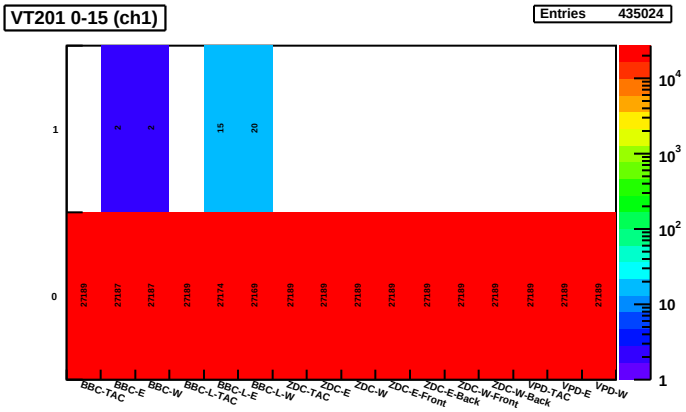

Input to FE004 QT board
Entries 870048
ADC
channel

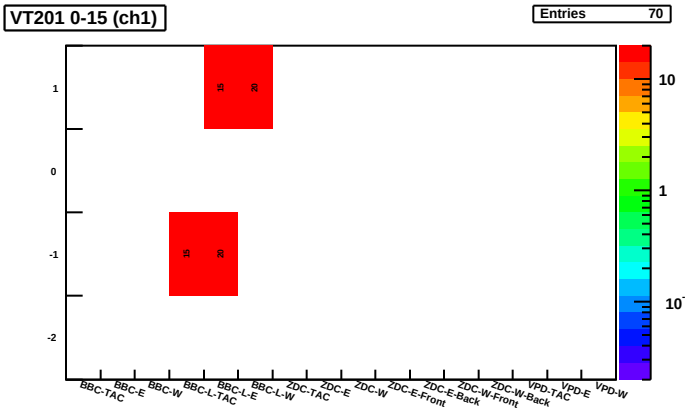

Input to FPE L1 DSM
Entries 108756
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1

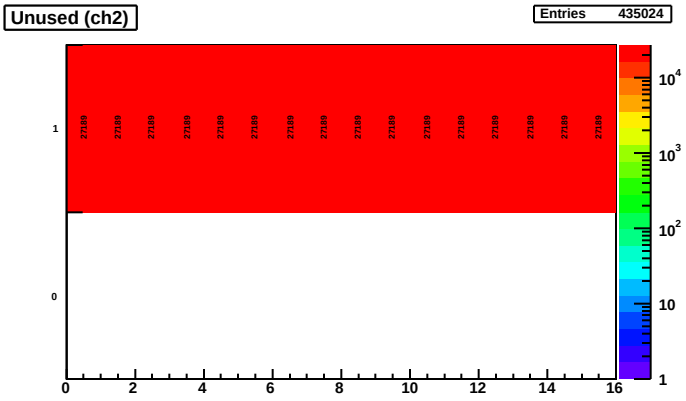

Input to FPE L1 DSM
Entries 27189
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1

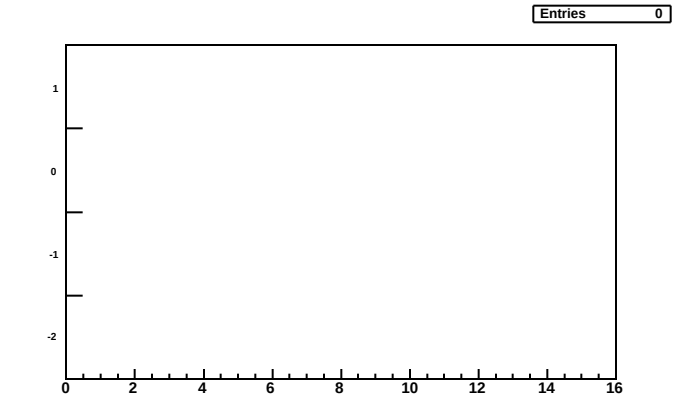

TF201 0-15 (ch0)
Entries 435024
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

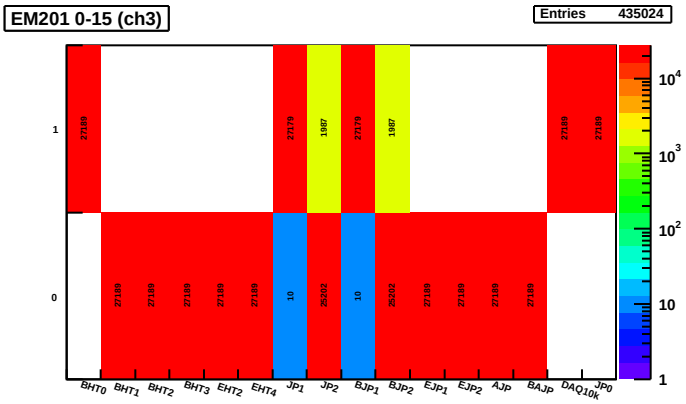

TF201 0-15 (ch0)
Entries 0
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

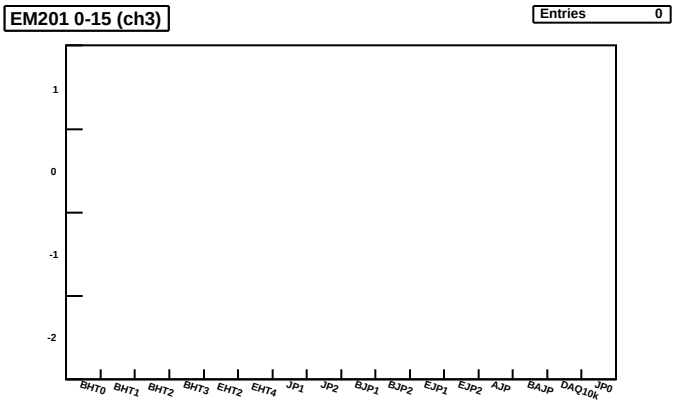

VT201 0-15 (ch1)
Entries 435024
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 70
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

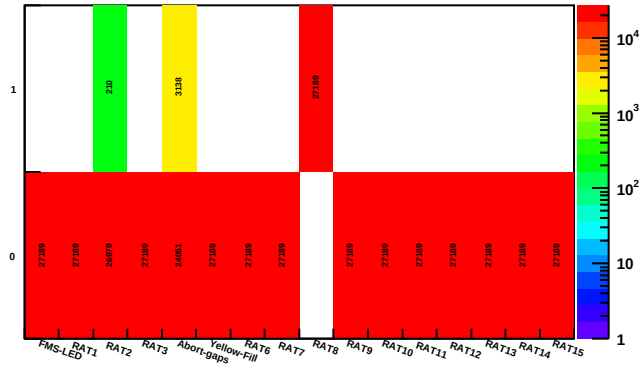

Unused (ch2)
Entries 435024

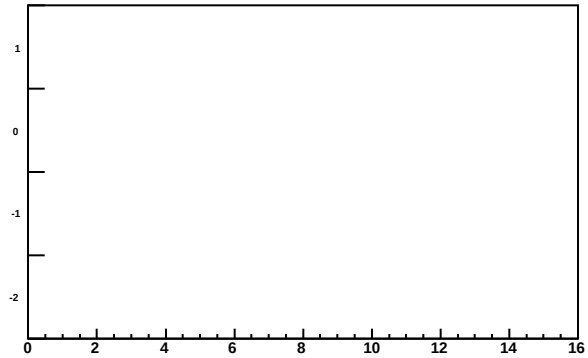

Entries 0


EM201 0-15 (ch3)
Entries 435024
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

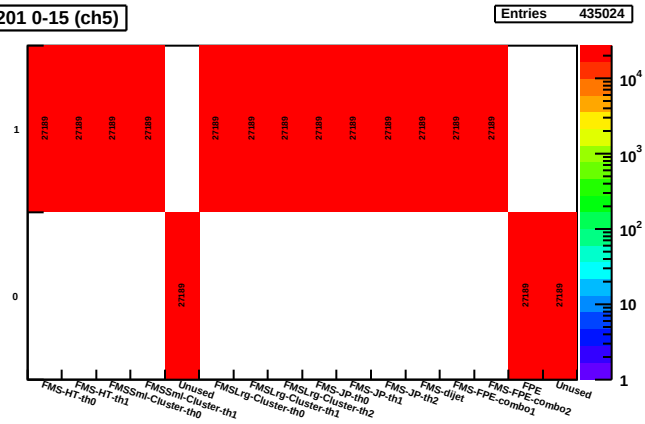

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

**RAT board (ch4)**

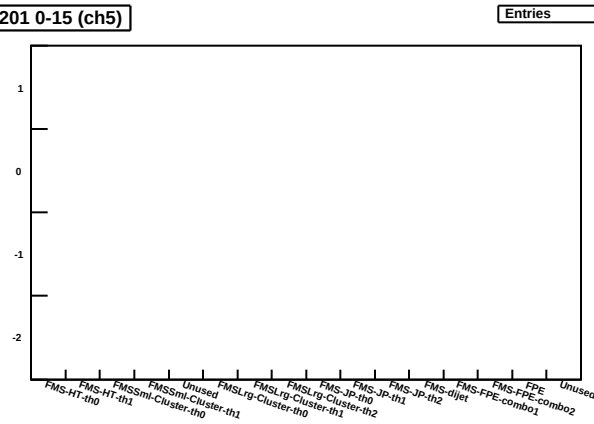


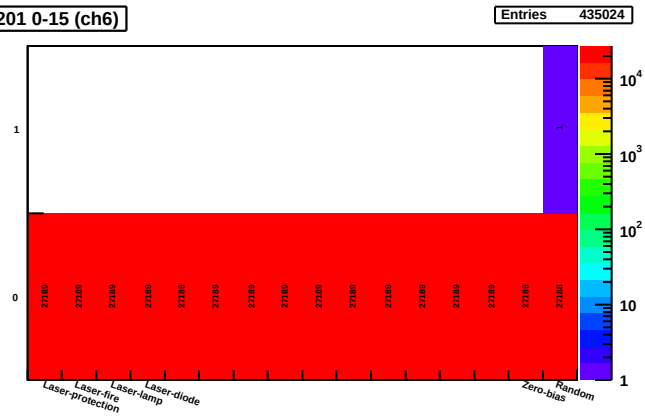

**FP201 0-15 (ch5)**

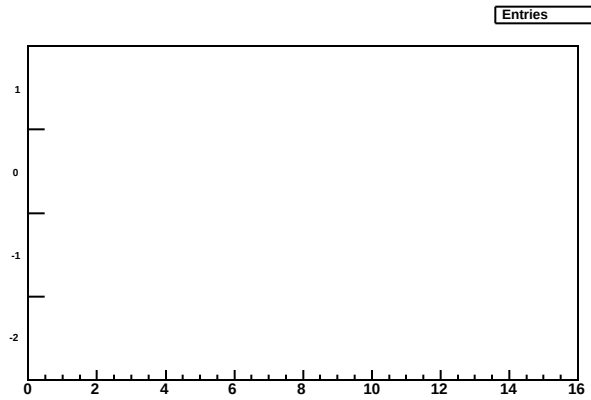


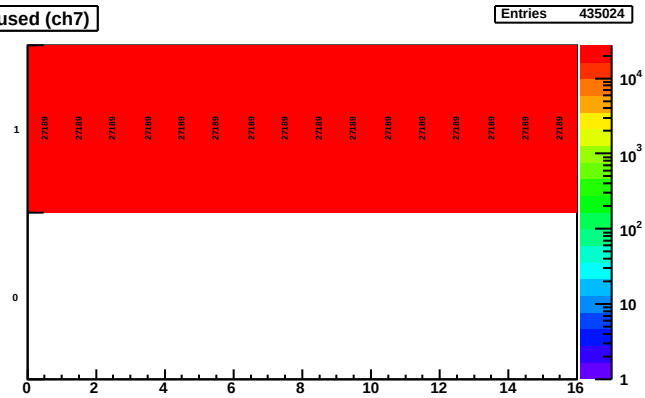
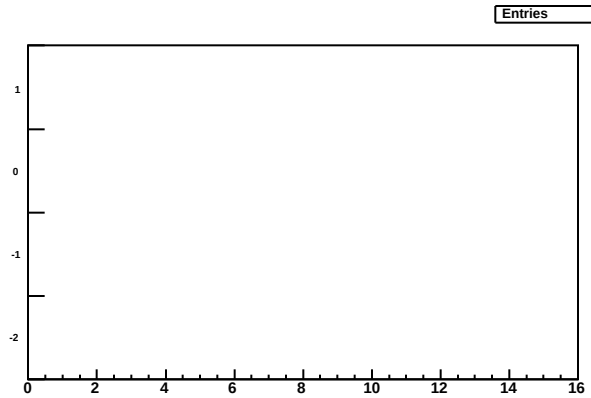

**FP201 0-15 (ch5)**




**ST201 0-15 (ch6)**




**Unused (ch7)**