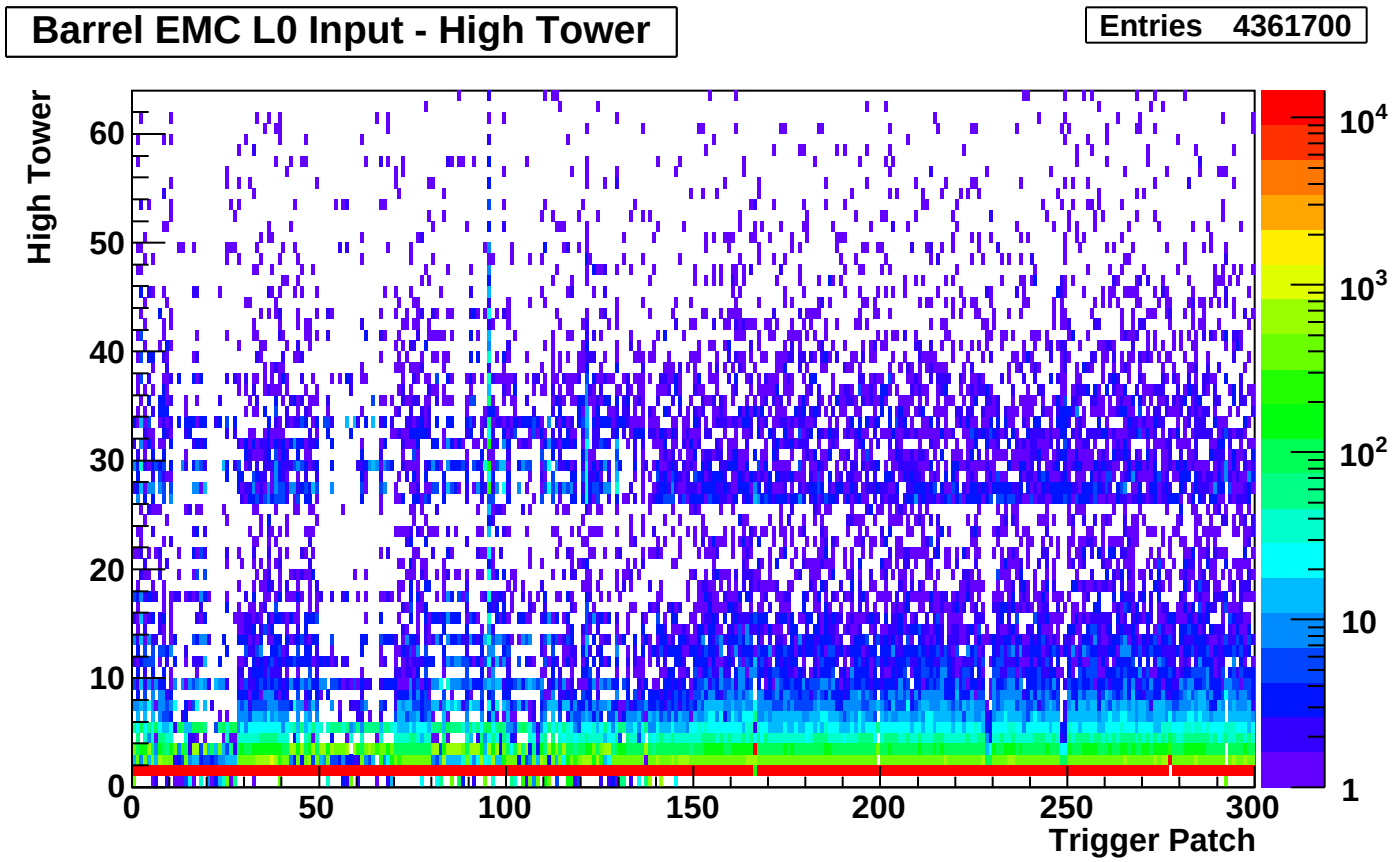
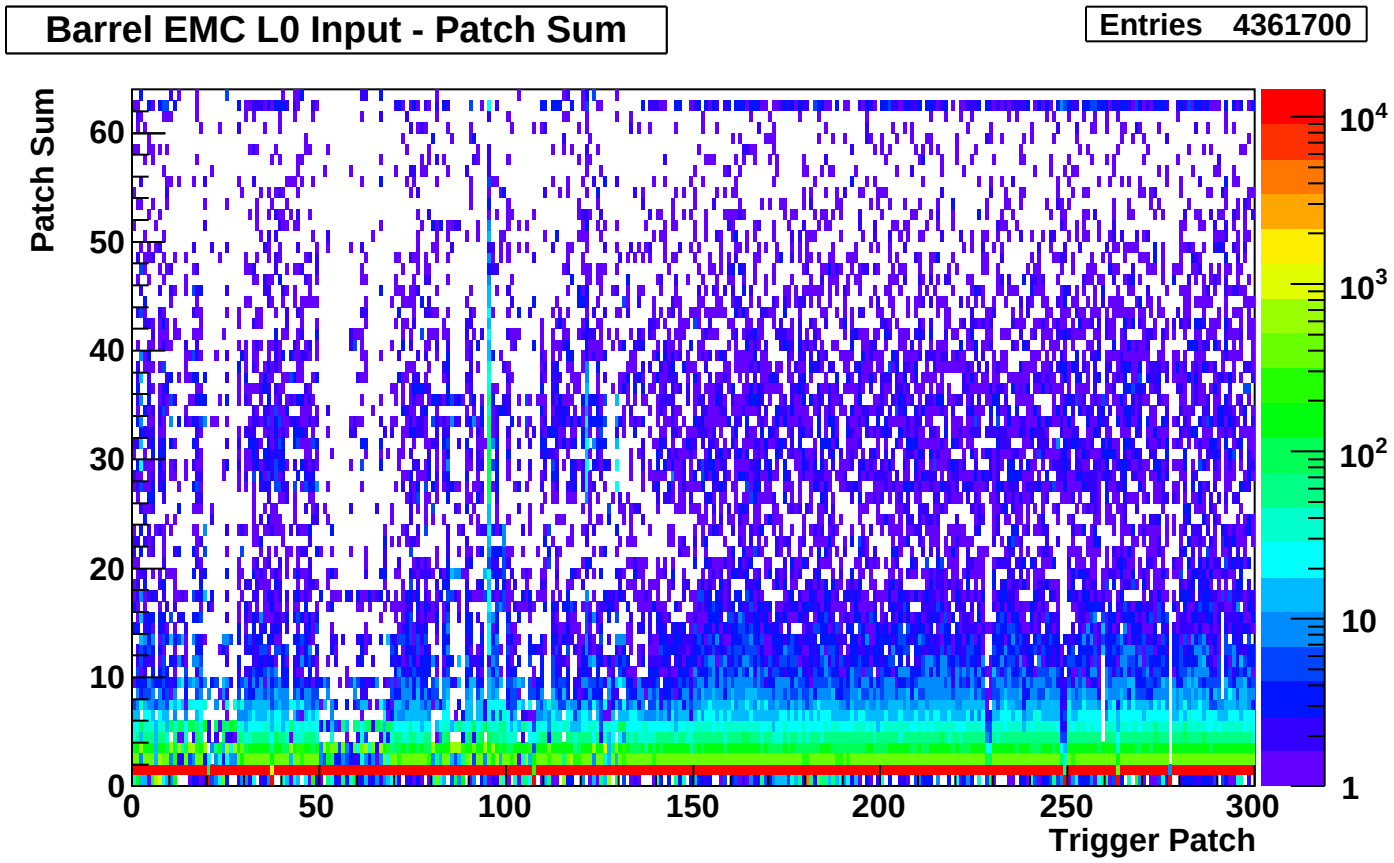
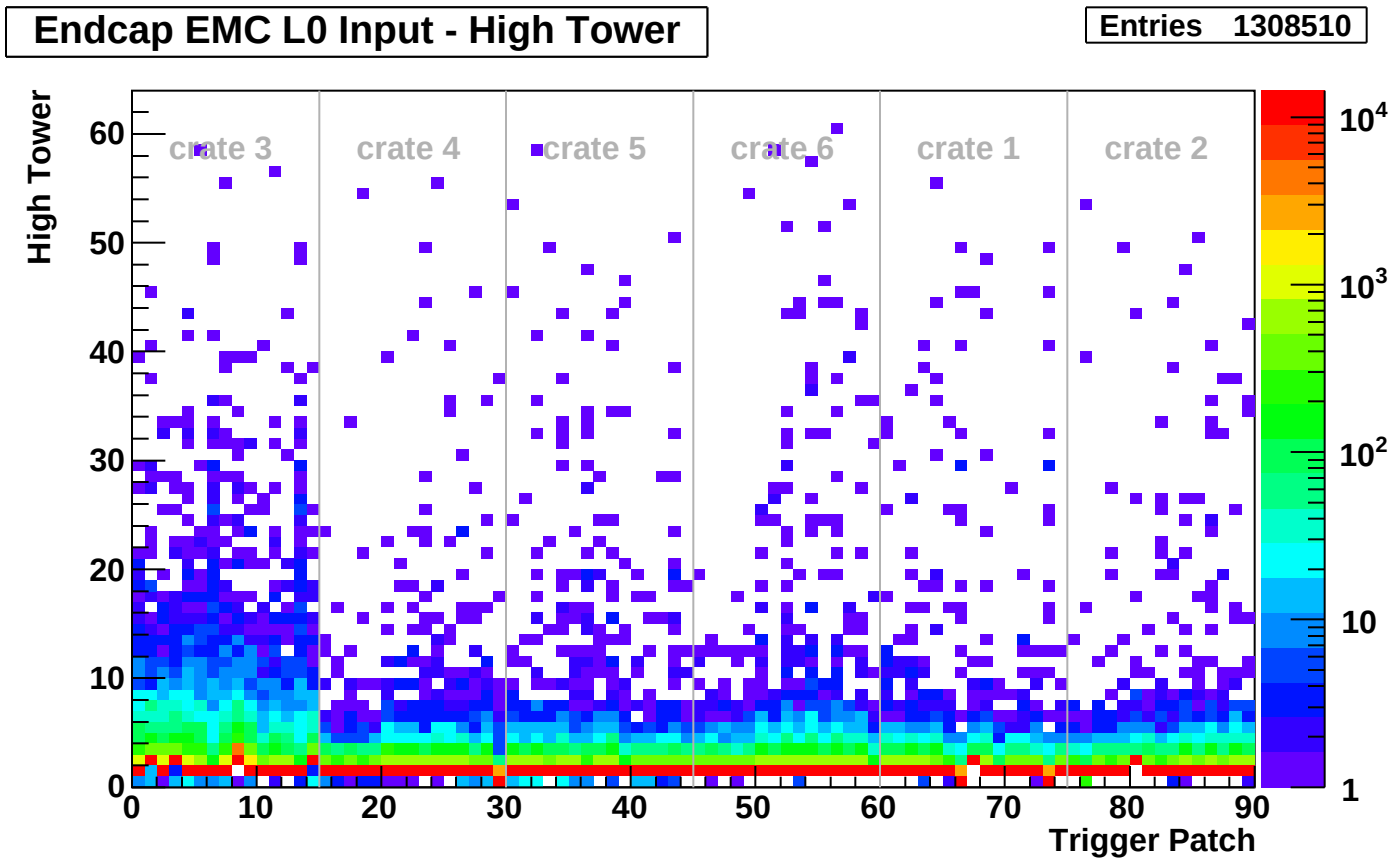
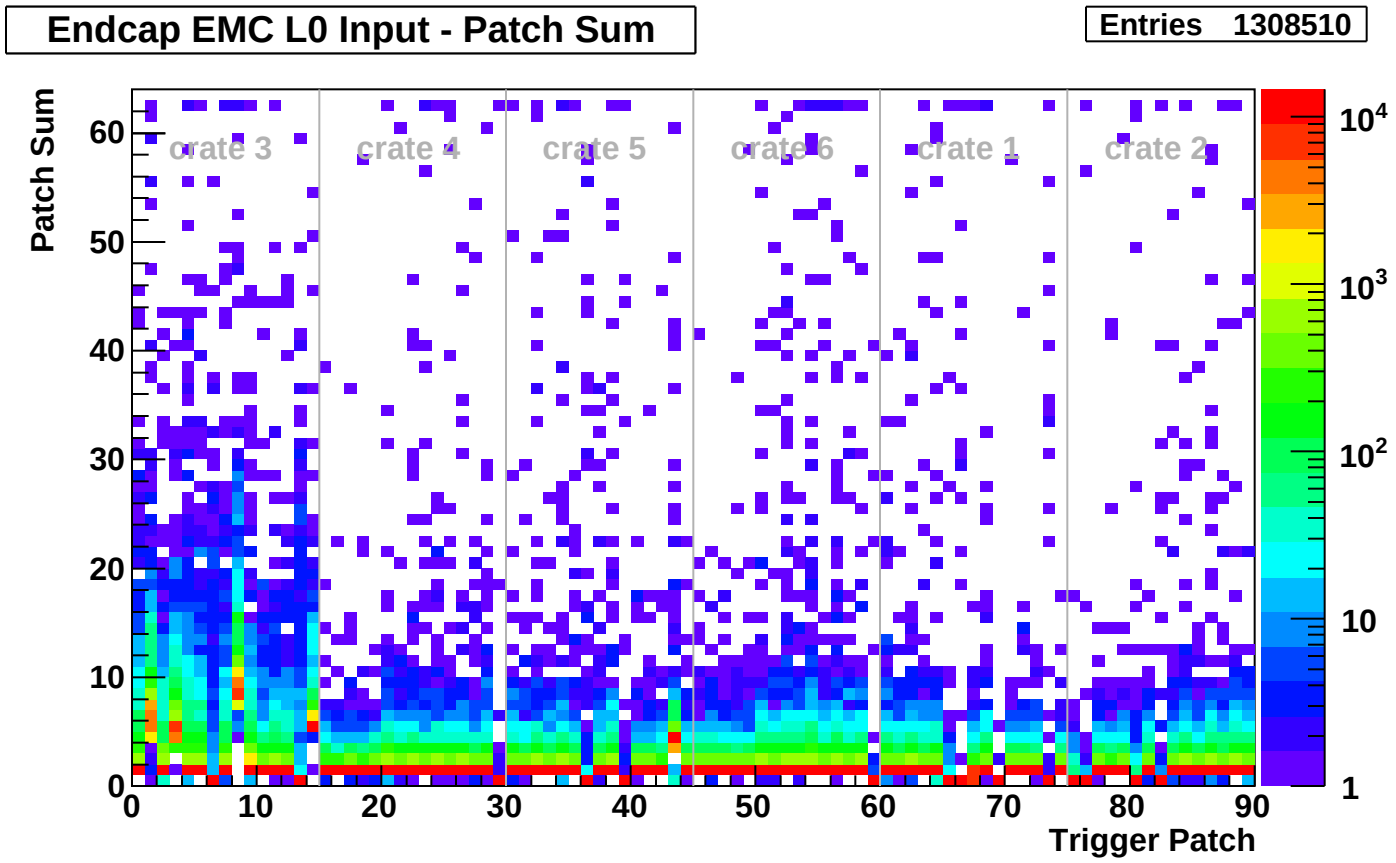
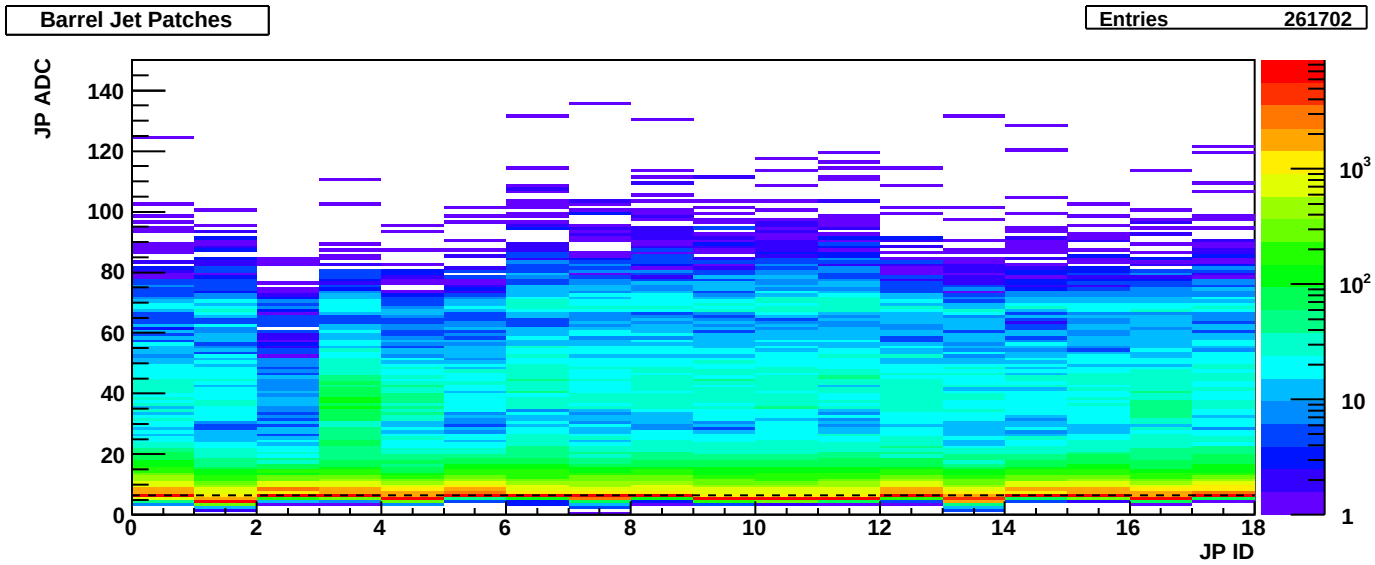
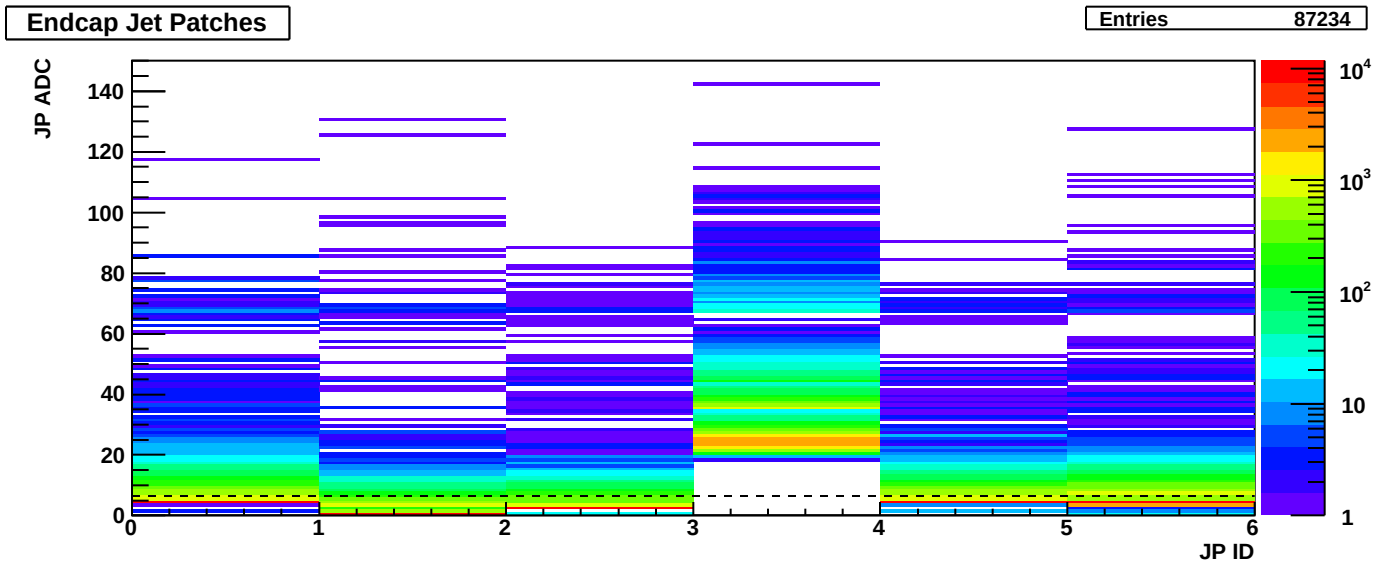

Barrel EMC L0 Input - High Tower
Entries 4361700
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

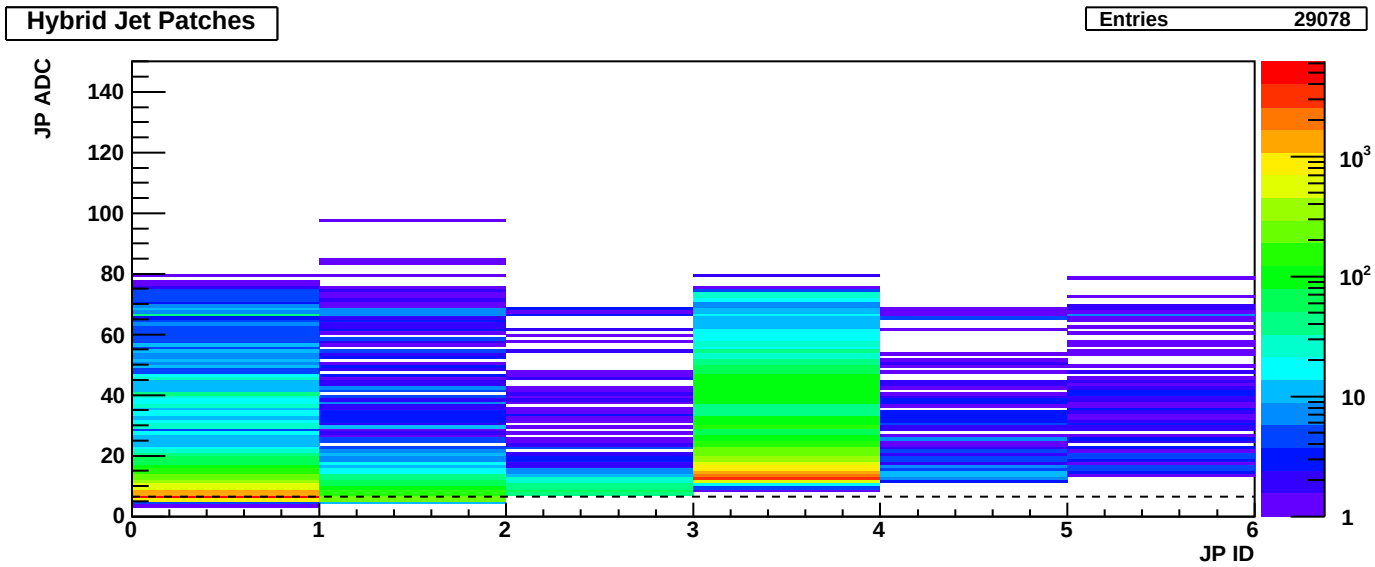

Barrel EMC L0 Input - Patch Sum
Entries 4361700
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

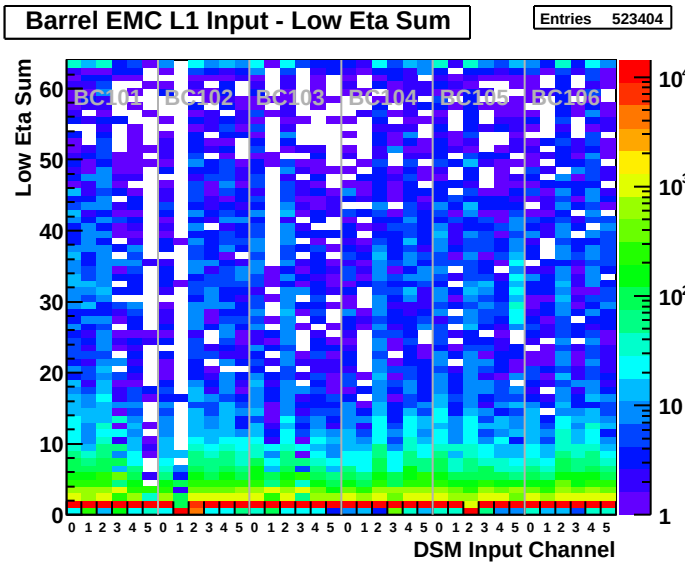

Endcap EMC L0 Input - High Tower
Entries 1308510
High Tower
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

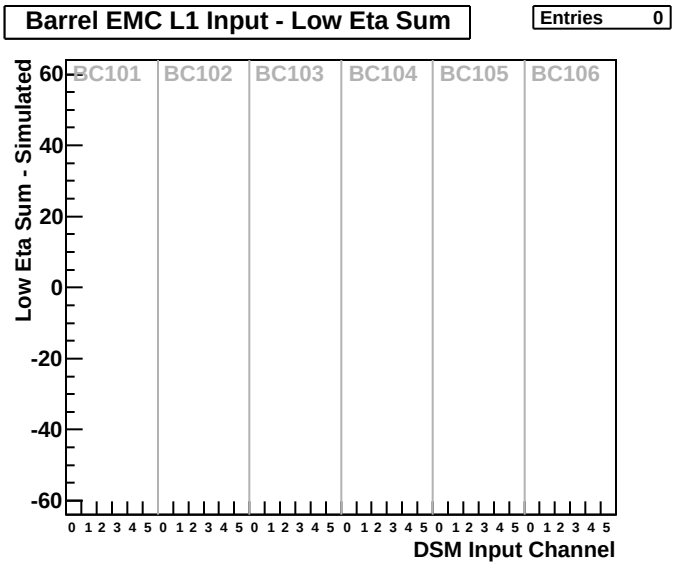

Endcap EMC L0 Input - Patch Sum
Entries 1308510
Patch Sum
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

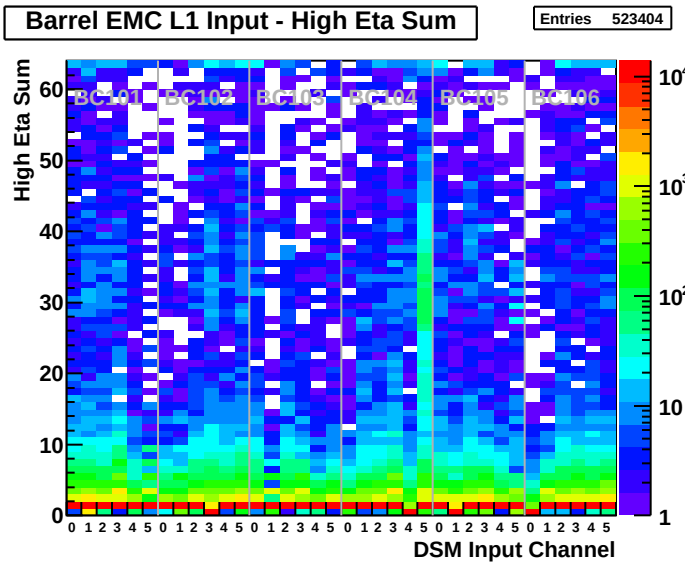

Barrel Jet Patches
Entries 261702
JP ADC
JP ID

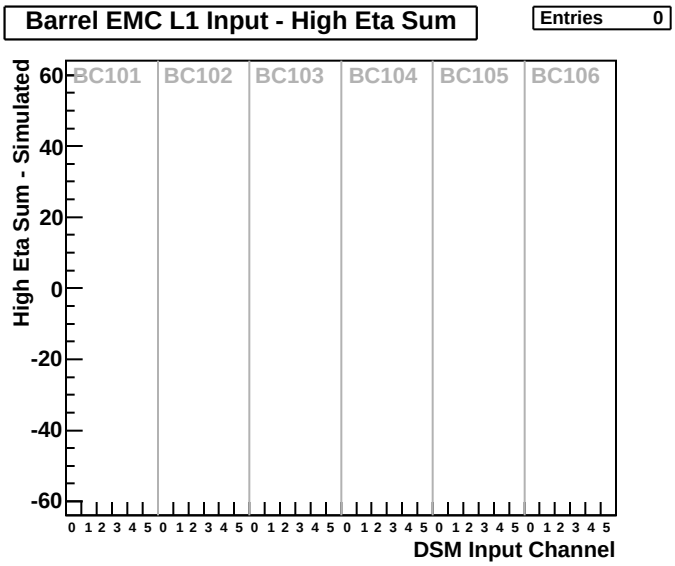

Endcap Jet Patches
Entries 87234
JP ADC
JP ID

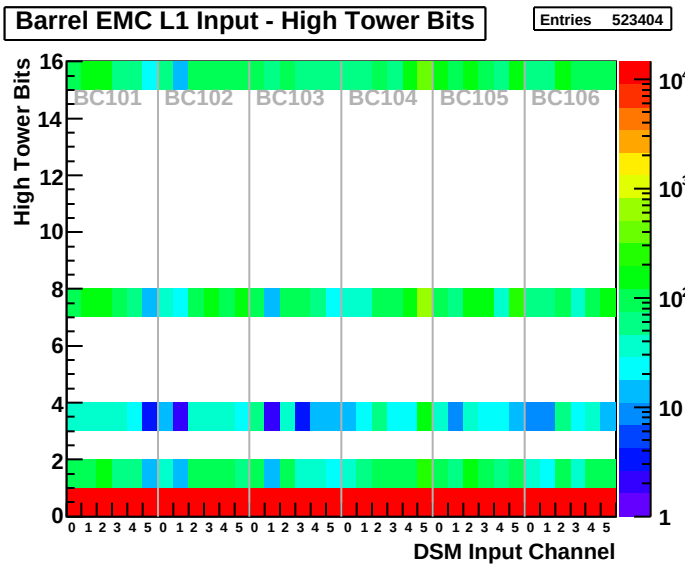

Hybrid Jet Patches
Entries 29078
JP ADC
JP ID

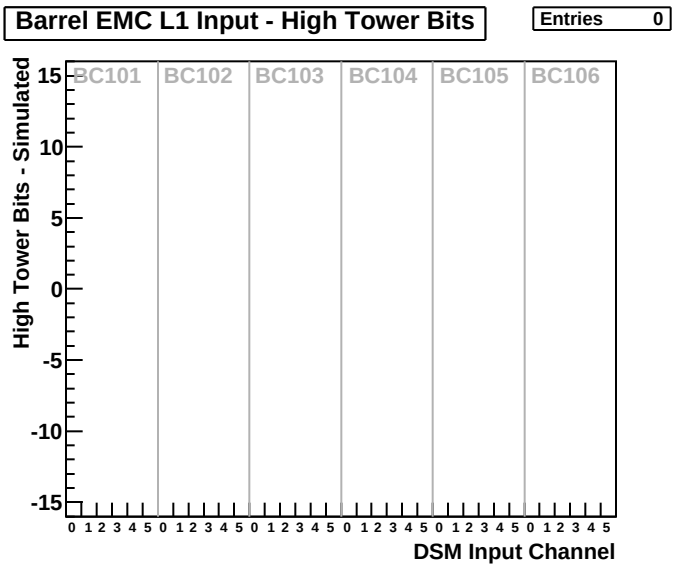

Barrel EMC L1 Input - Low Eta Sum
Entries 523404
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

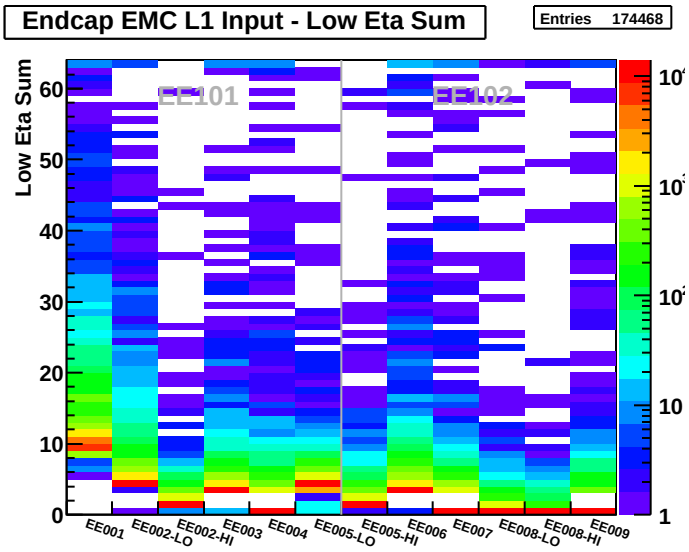

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

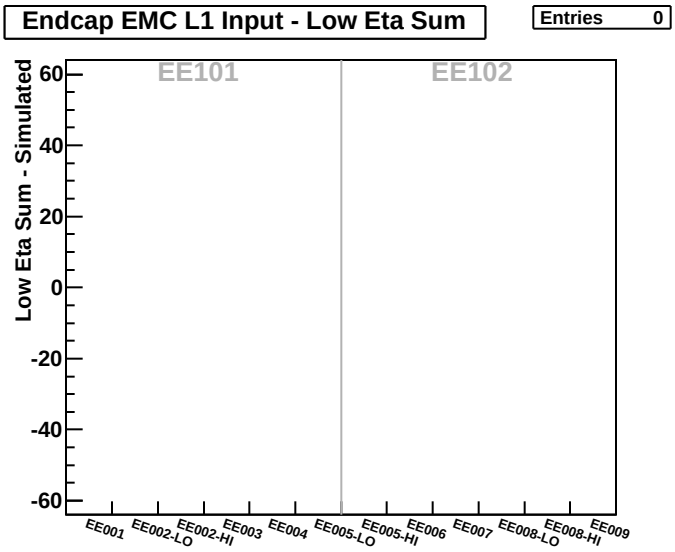

Barrel EMC L1 Input - High Eta Sum
Entries 523404
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

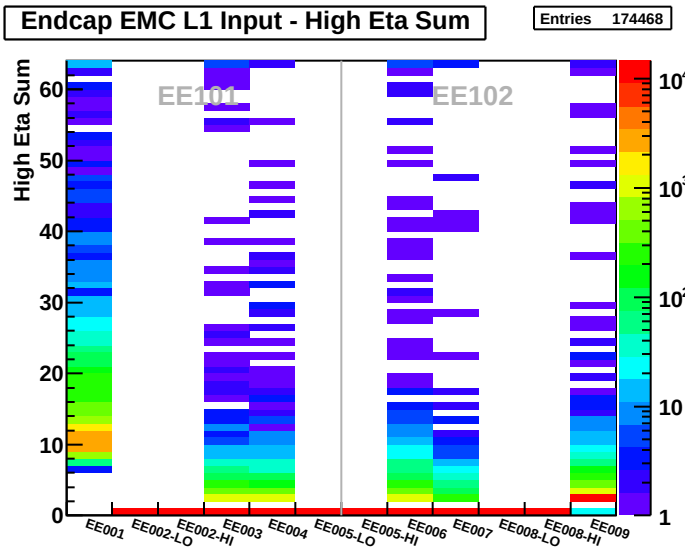

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

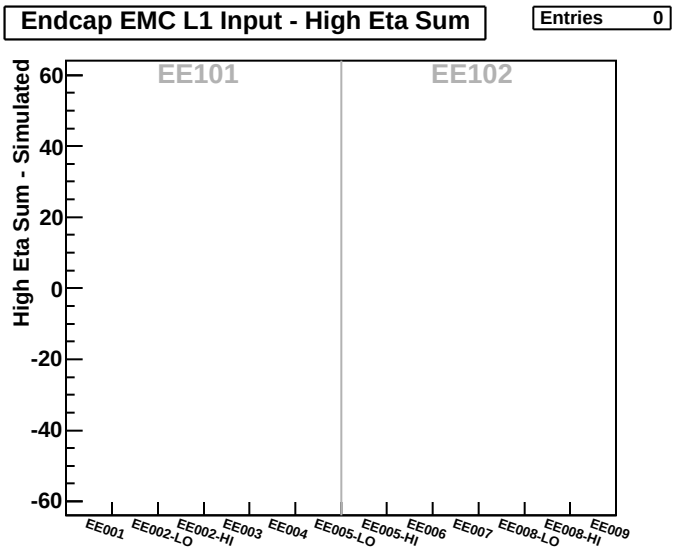

Barrel EMC L1 Input - High Tower Bits
Entries 523404
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

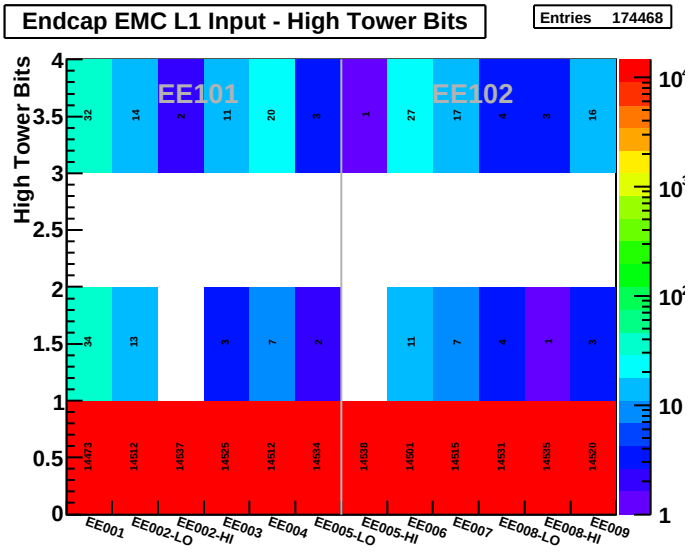

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

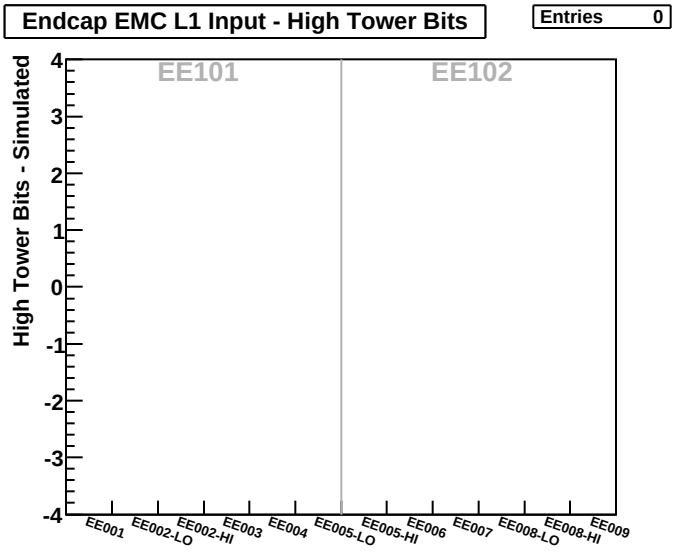

Endcap EMC L1 Input - Low Eta Sum
Entries 174468
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

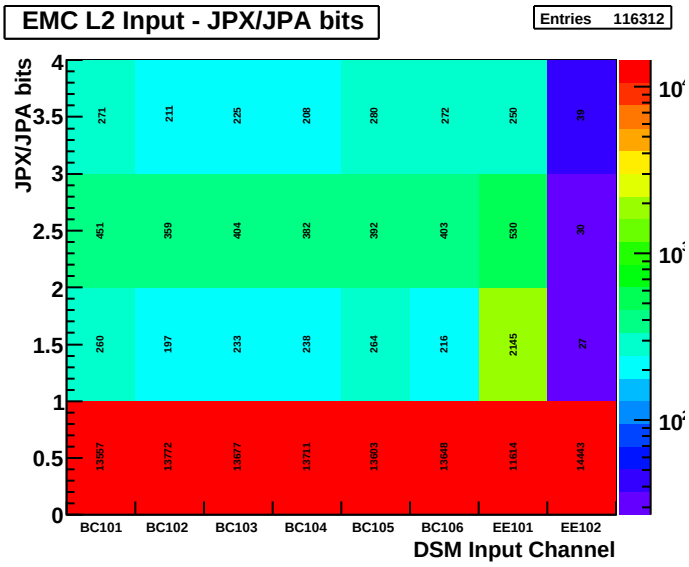

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

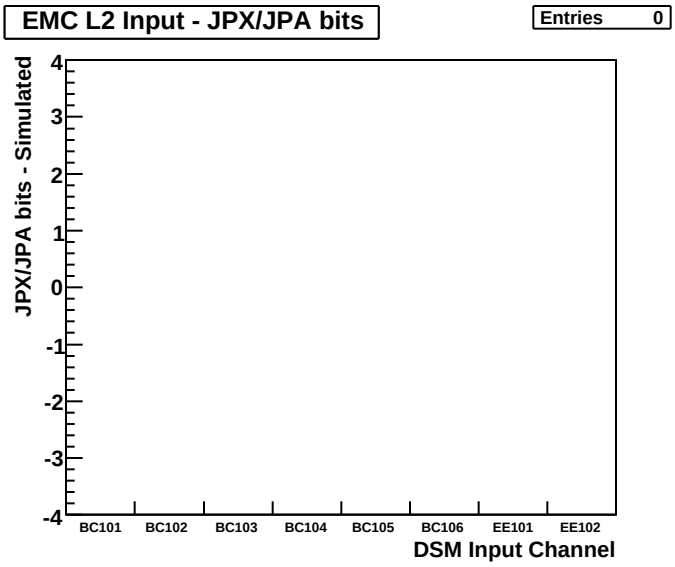

Endcap EMC L1 Input - High Eta Sum
Entries 174468
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

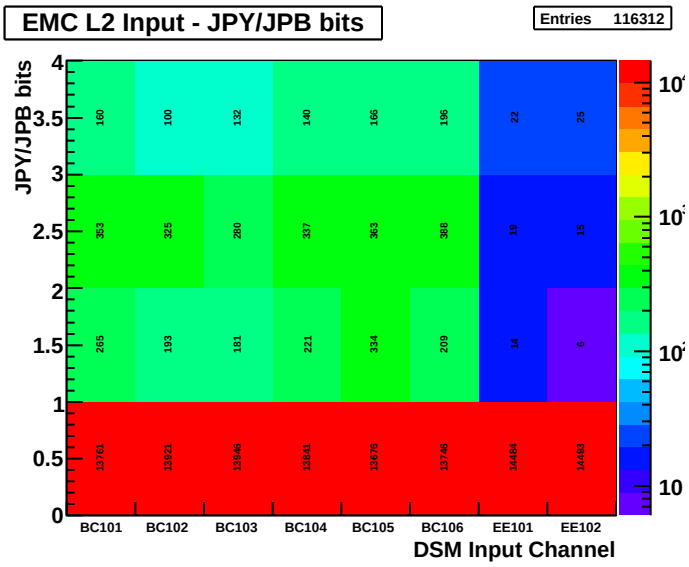

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

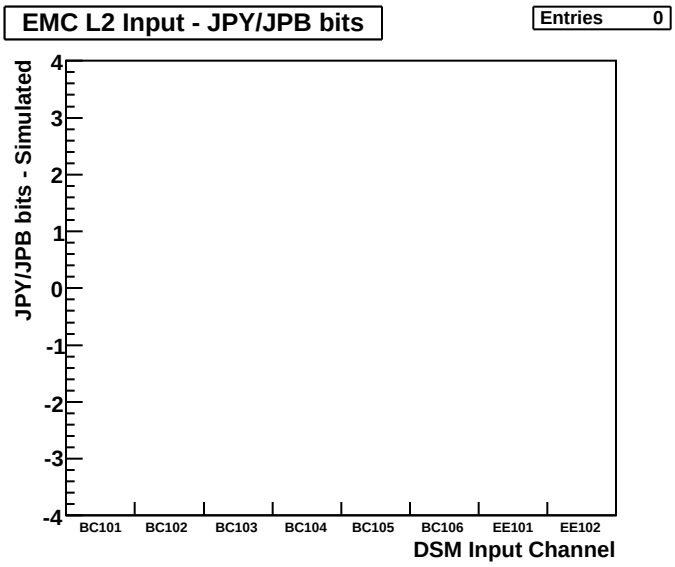

Endcap EMC L1 Input - High Tower Bits
Entries 174468
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

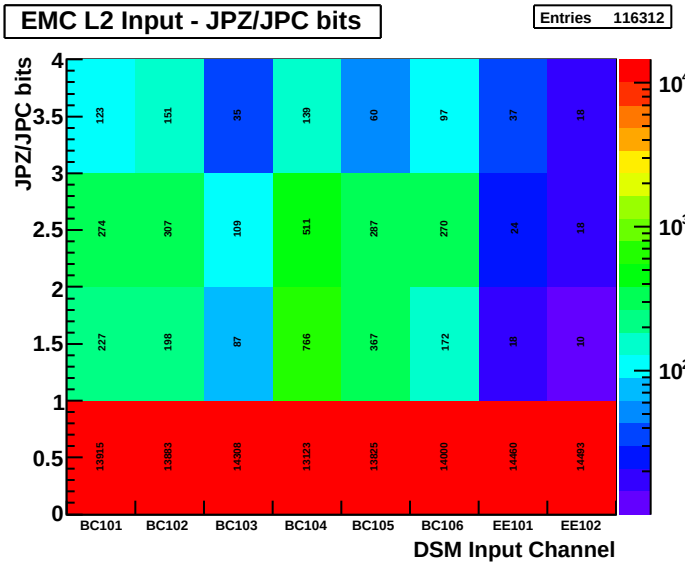

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

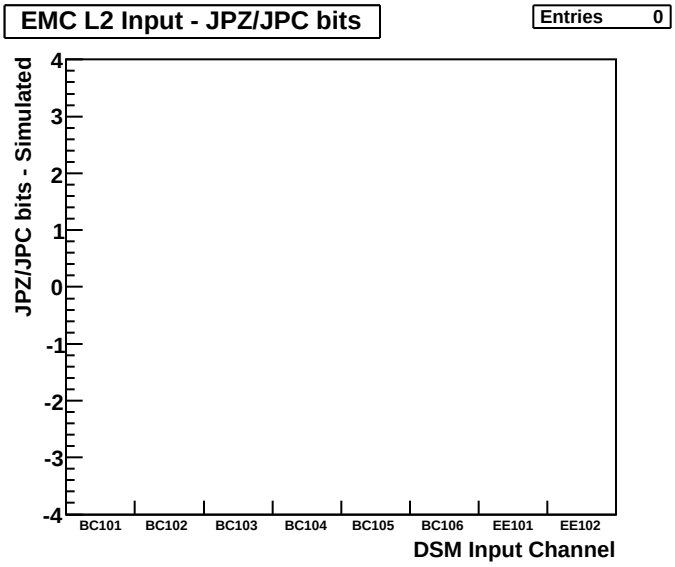

EMC L2 Input - JPX/JPA bits
Entries 116312
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
271 211 225 208 280 272 250 39
451 359 404 382 392 403 530 30
260 197 233 238 264 216 2145 27
13557 13772 13677 13711 13603 13648 11614 14443

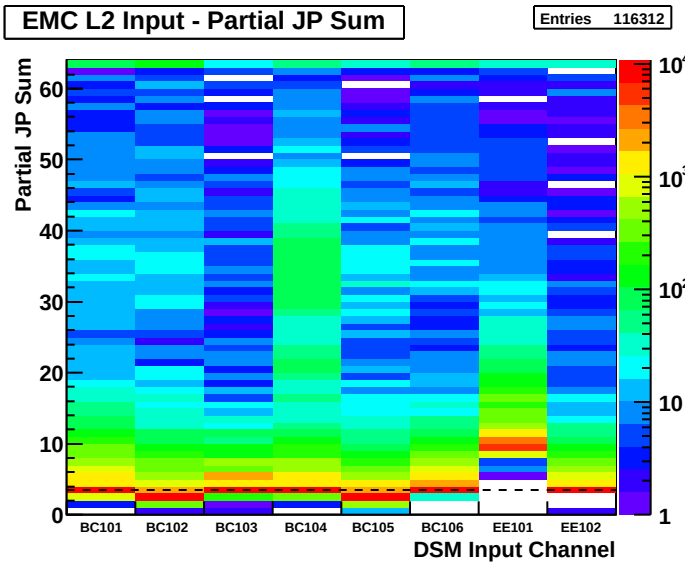

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

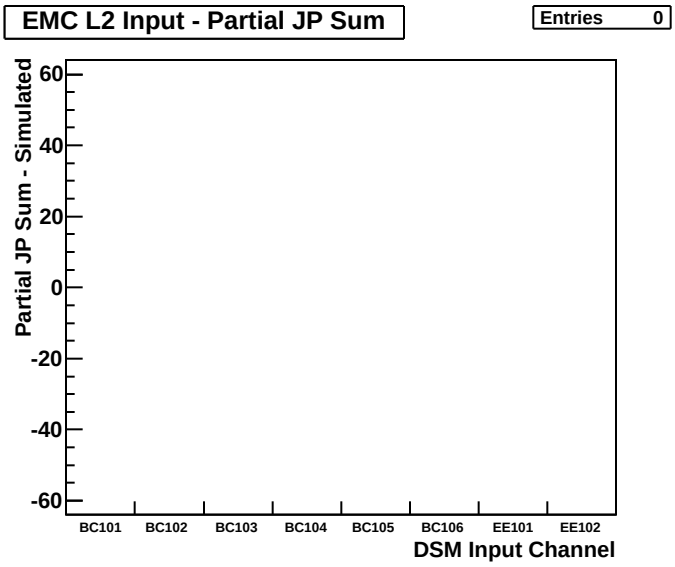

EMC L2 Input - JPY/JPB bits
Entries 116312
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
160 100 132 140 166 196 22 25
353 325 280 337 363 388 19 15
265 193 181 221 334 209 14 6
13761 13921 13946 13841 13676 13746 14494 14493

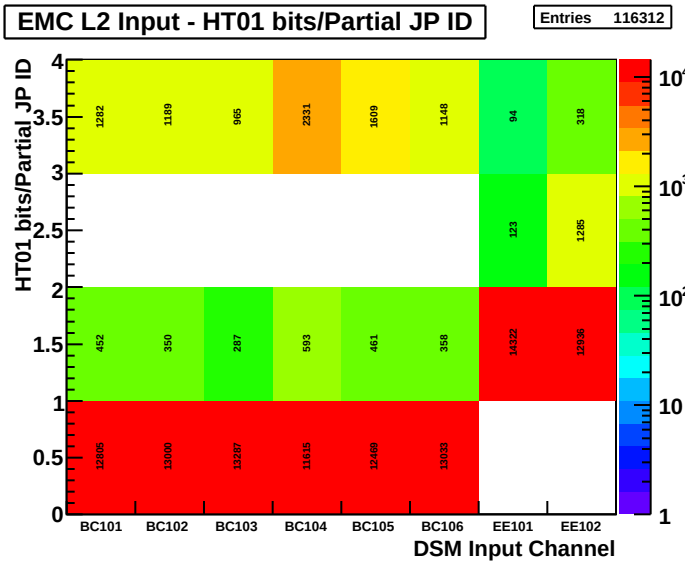

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

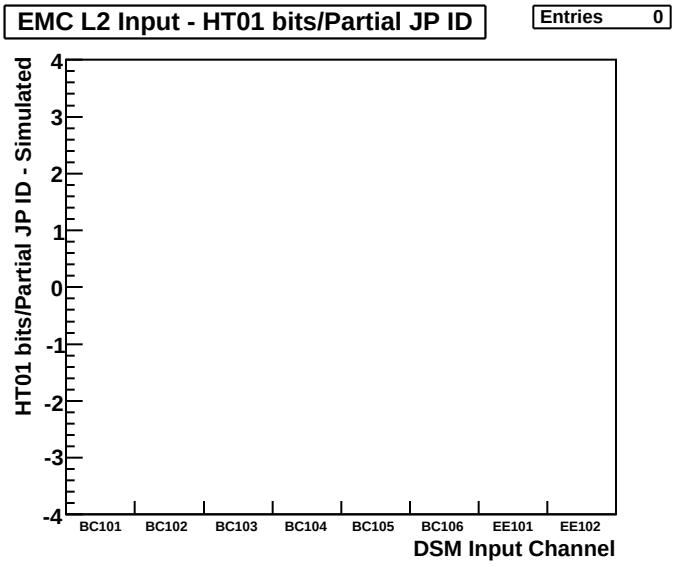

EMC L2 Input - JPZ/JPC bits
Entries 116312
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
123 151 35 139 60 97 37 18
274 307 109 511 287 270 24 18
227 198 87 766 367 172 18 10
13915 13883 14308 13123 13825 14000 14460 14493

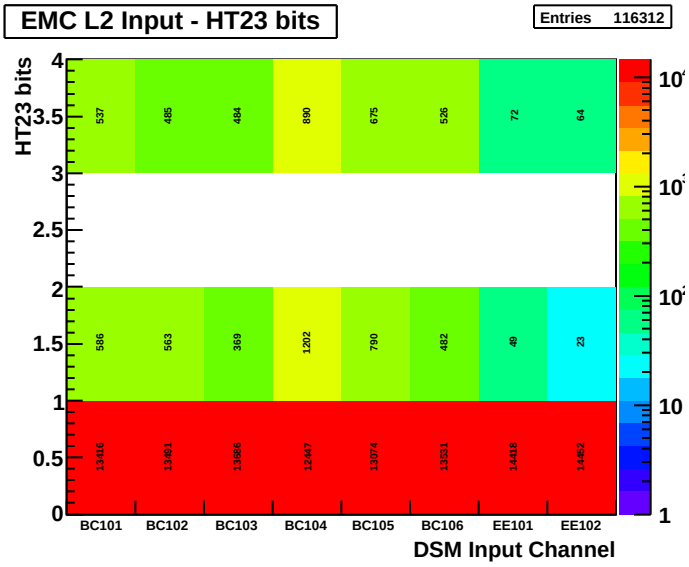

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

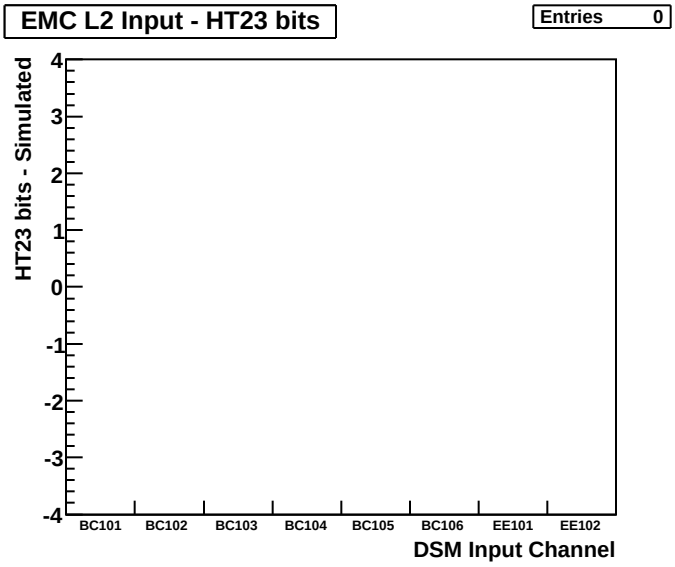

EMC L2 Input - Partial JP Sum
Entries 116312
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

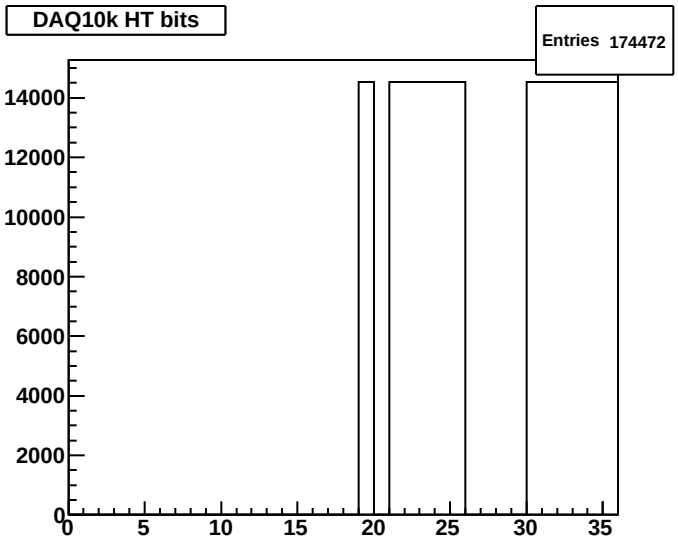

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

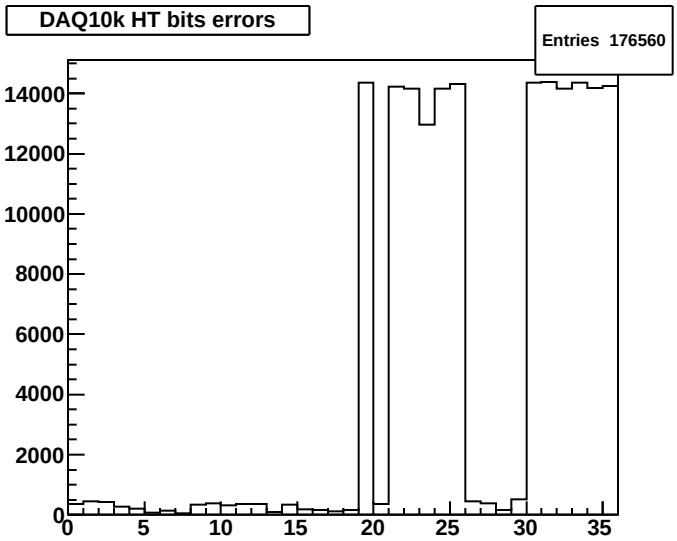

EMC L2 Input - HT01 bits/Partial JP ID
Entries 116312
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

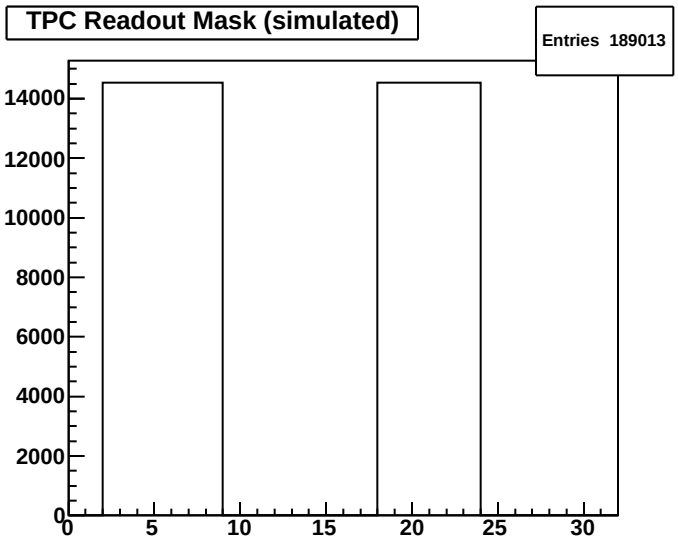

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

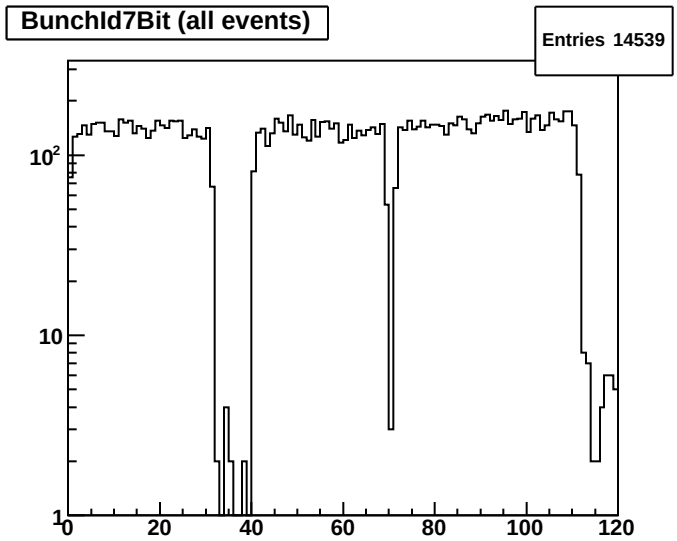

EMC L2 Input - HT23 bits
Entries 116312
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

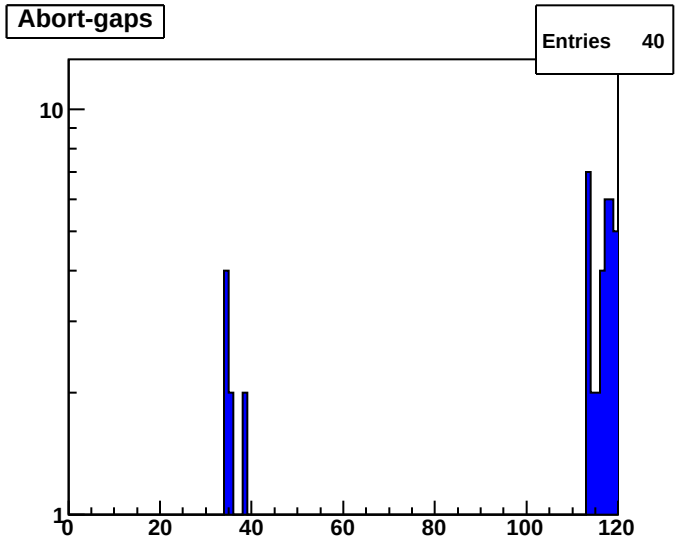

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

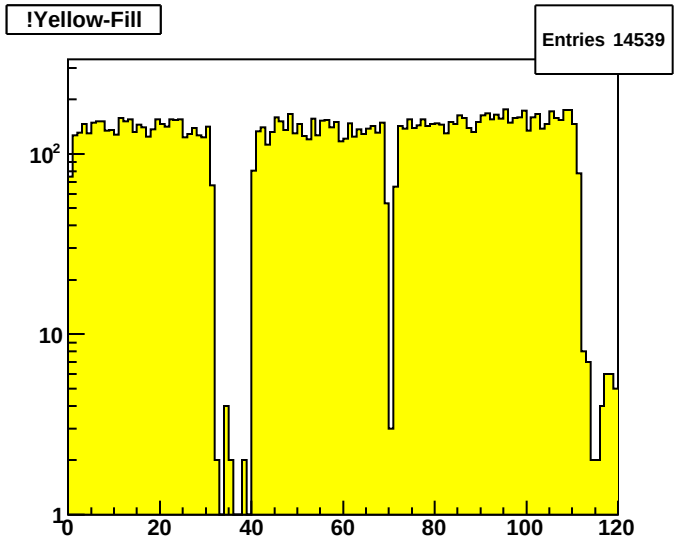

DAQ10k HT bits
Entries 174472
14000
12000
10000
8000
6000
4000
2000
0
0 5 10 15 20 25 30 35

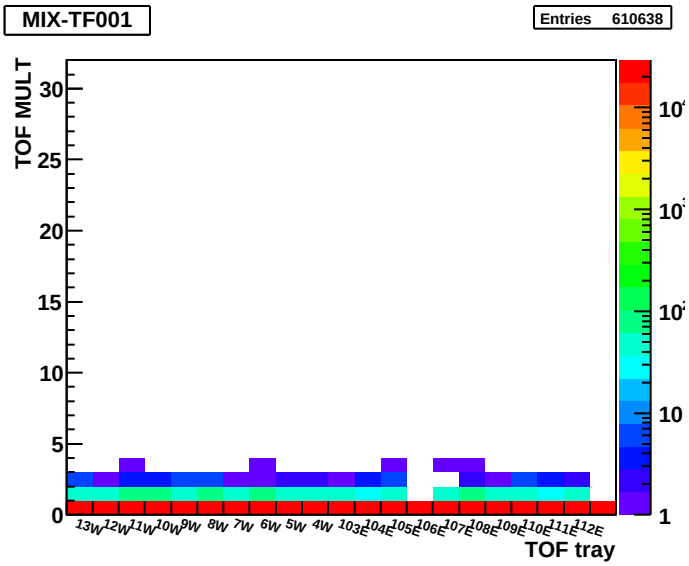

DAQ10k HT bits errors
Entries 176560
14000
12000
10000
8000
6000
4000
2000
0
0 5 10 15 20 25 30 35

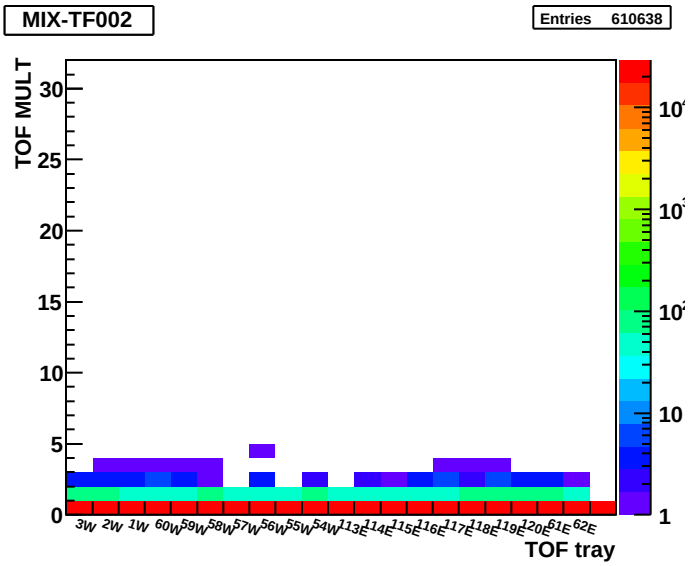

TPC Readout Mask (simulated)
Entries 189013
14000
12000
10000
8000
6000
4000
2000
0
0 5 10 15 20 25 30

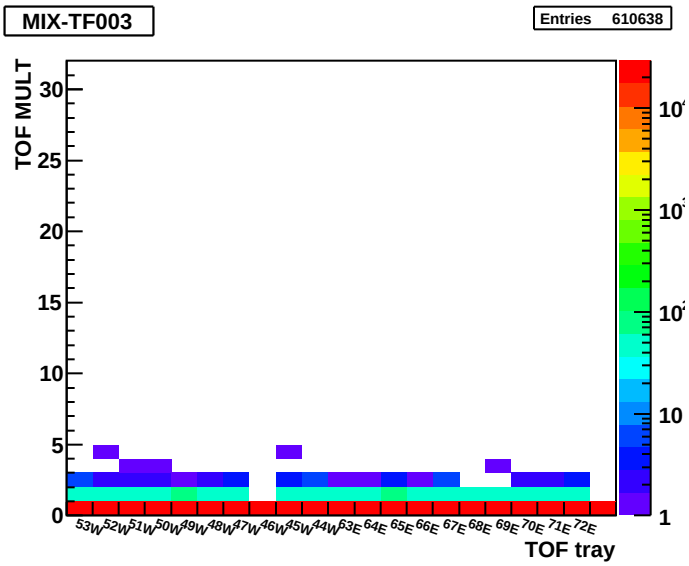

BunchId7Bit (all events)
Entries 14539
10^2
10
1
0 20 40 60 80 100 120

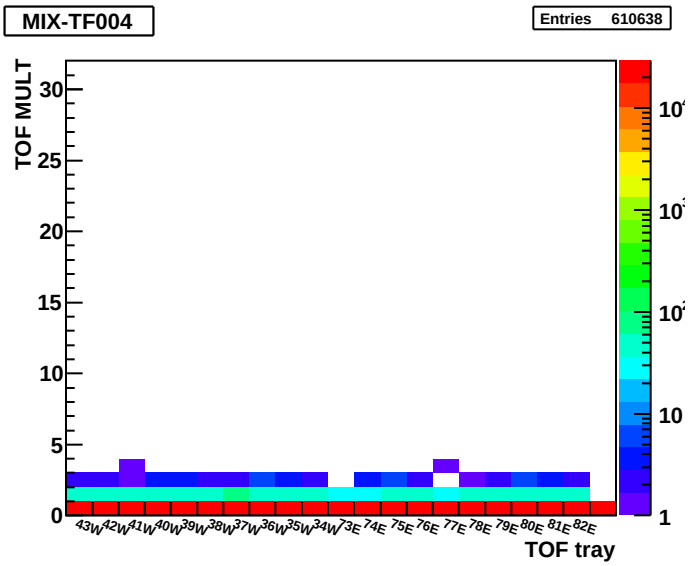

Abort-gaps
Entries 40
10
1
0 20 40 60 80 100 120

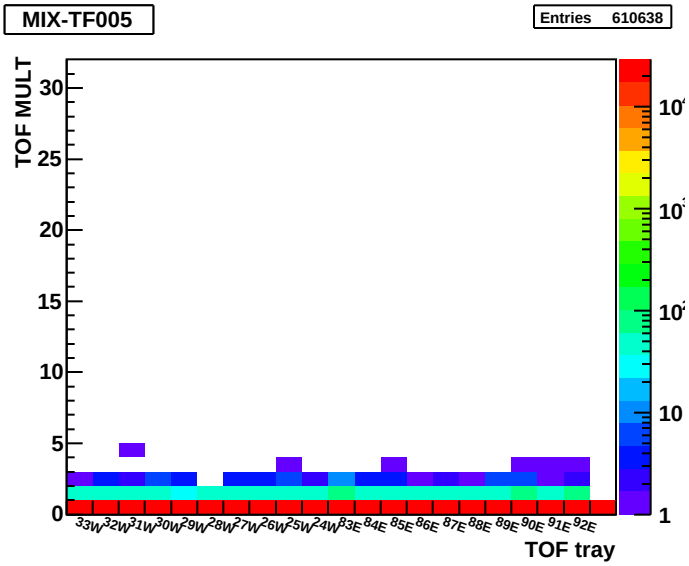

!Yellow-Fill
Entries 14539
10^2
10
1
0 20 40 60 80 100 120

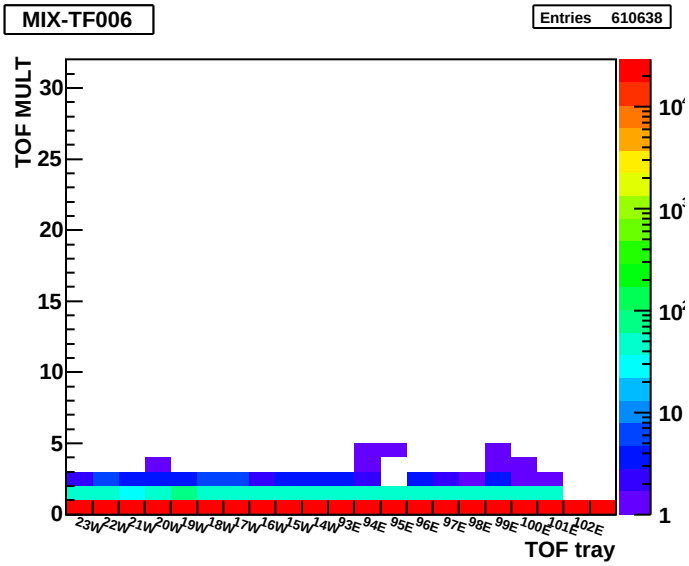

MIX-TF001
Entries 610638
TOF MULT
TOF tray

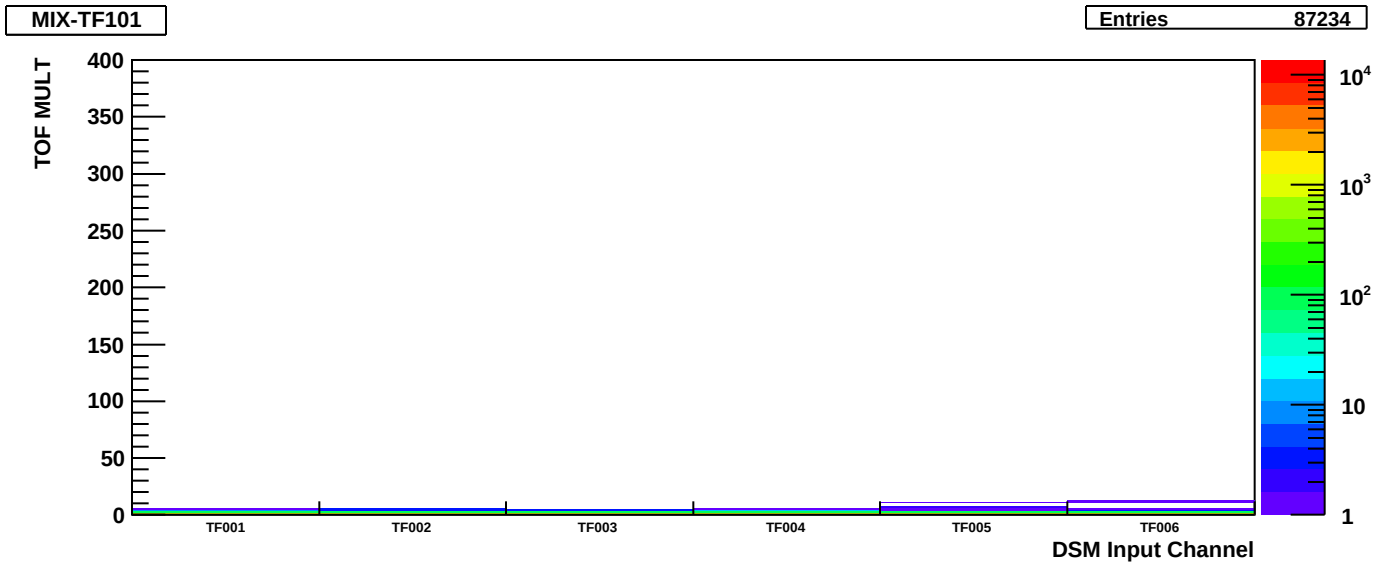

MIX-TF002
Entries 610638
TOF MULT
TOF tray

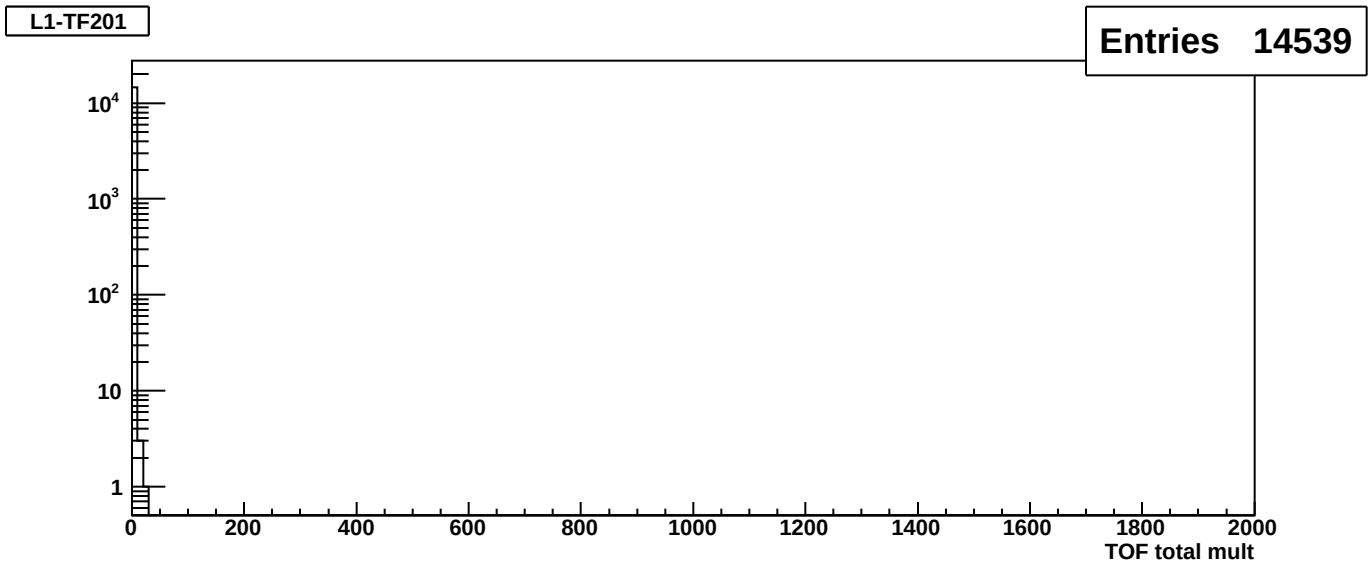

MIX-TF003
Entries 610638
TOF MULT
TOF tray

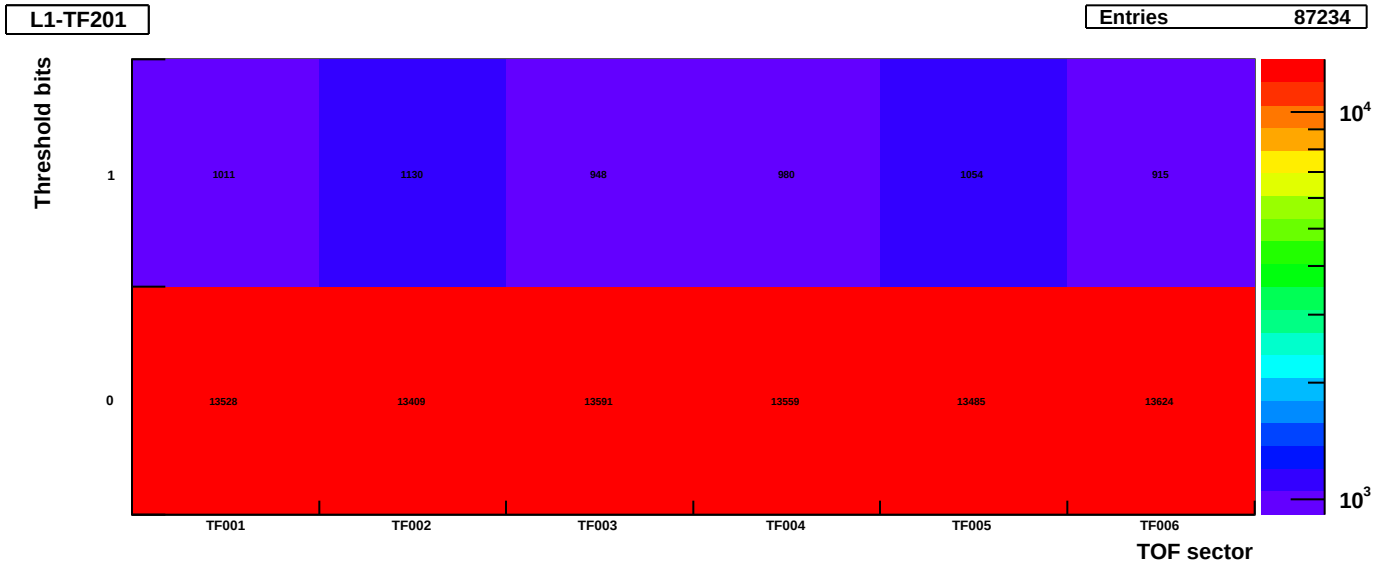

MIX-TF004
Entries 610638
TOF MULT
TOF tray

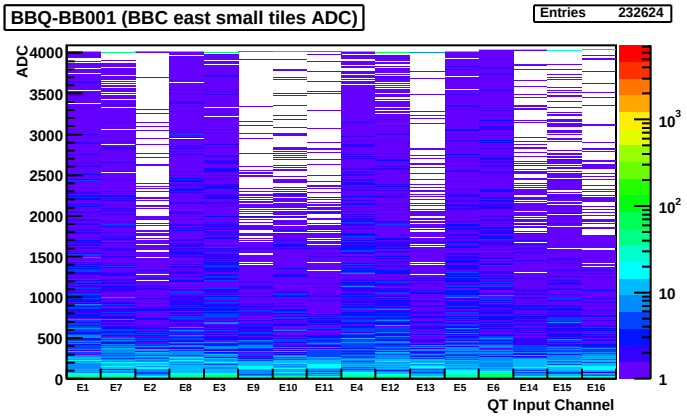

MIX-TF005
Entries 610638
TOF MULT
TOF tray

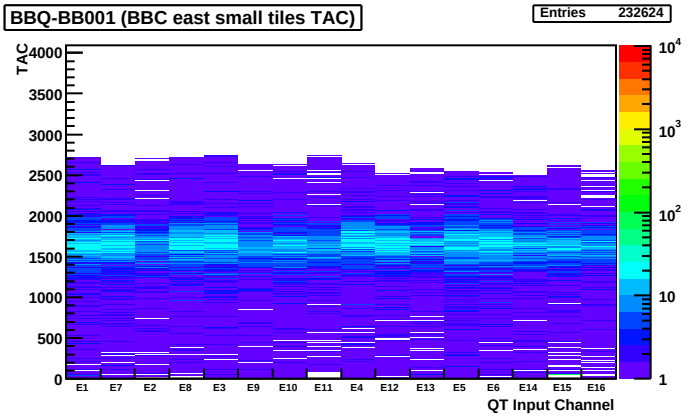

MIX-TF006
Entries 610638
TOF MULT
TOF tray

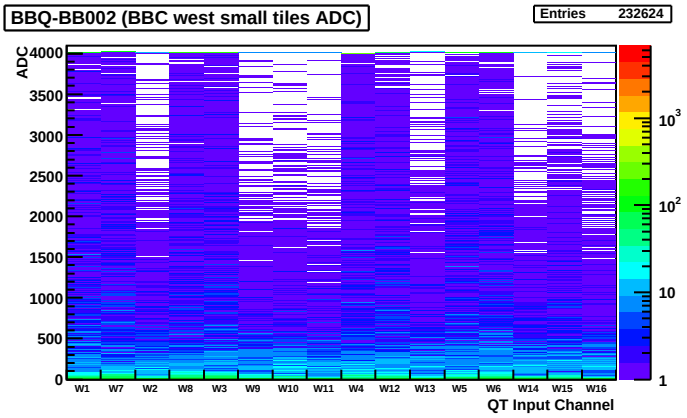

MIX-TF101
Entries 87234
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

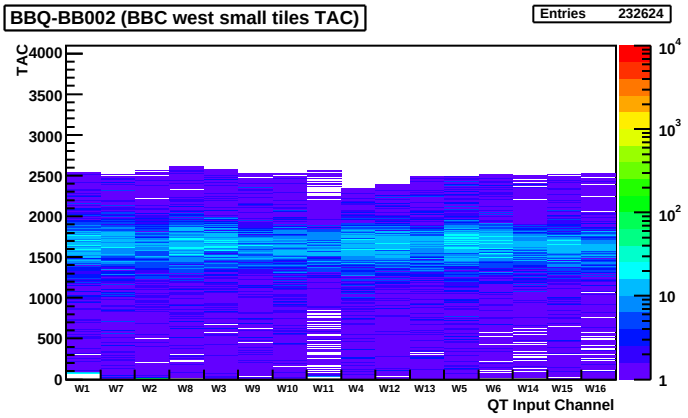

L1-TF201
Entries 14539
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

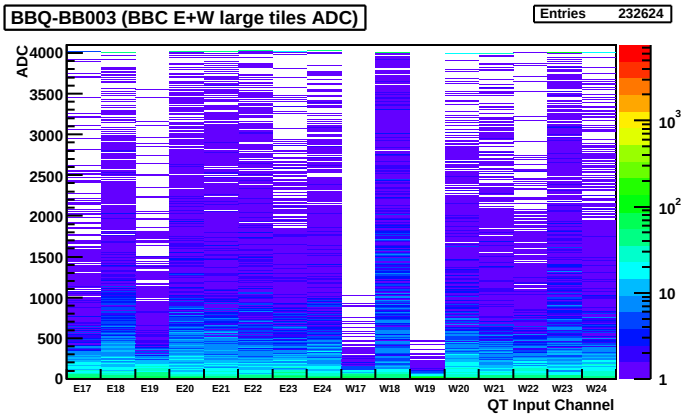

L1-TF201
Entries 87234
Threshold bits
1
0
1011
1130
948
980
1054
915
13528
13409
13591
13559
13485
13624
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^4
10^3

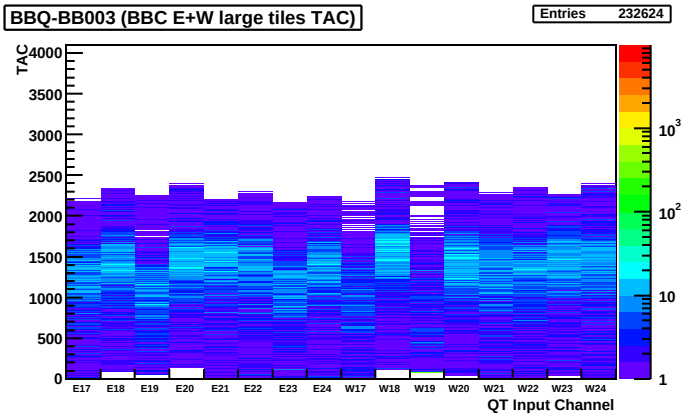

BBQ-BB001 (BBC east small tiles ADC)
Entries 232624
ADC
QT Input Channel

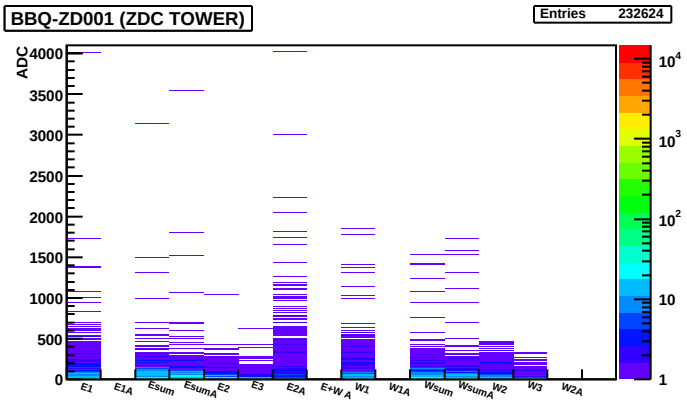

BBQ-BB001 (BBC east small tiles TAC)
Entries 232624
TAC
QT Input Channel

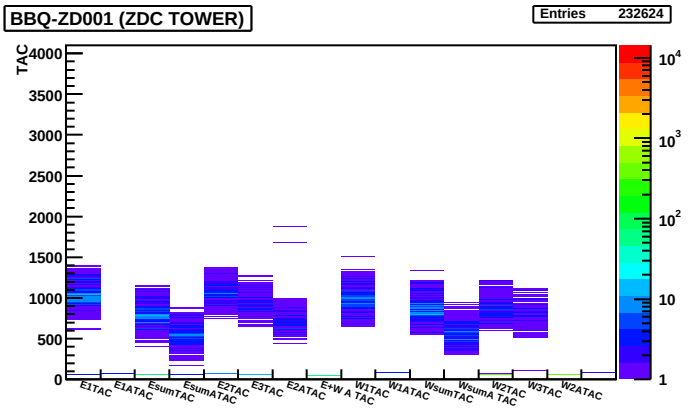

BBQ-BB002 (BBC west small tiles ADC)
Entries 232624
ADC
QT Input Channel

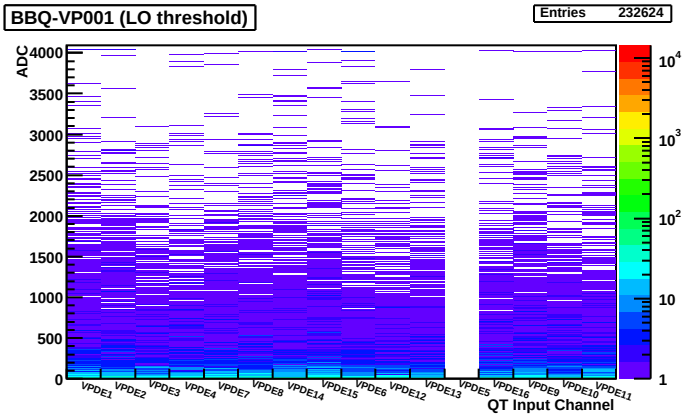

BBQ-BB002 (BBC west small tiles TAC)
Entries 232624
TAC
QT Input Channel

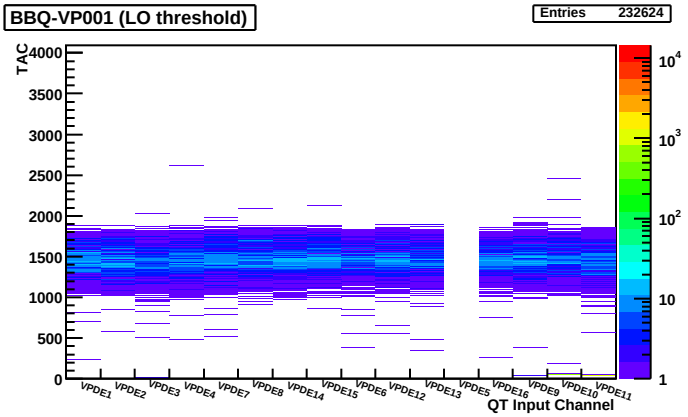

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 232624
ADC
QT Input Channel

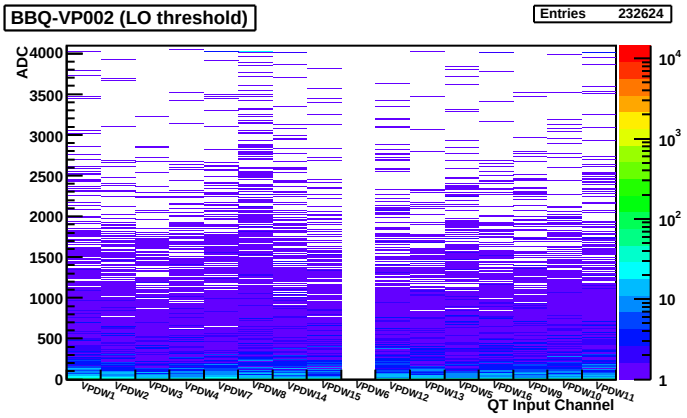

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 232624
TAC
QT Input Channel

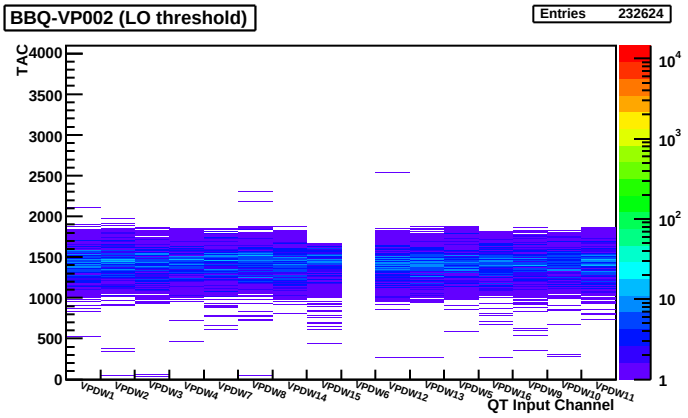

BBQ-ZD001 (ZDC TOWER)
Entries 232624
ADC

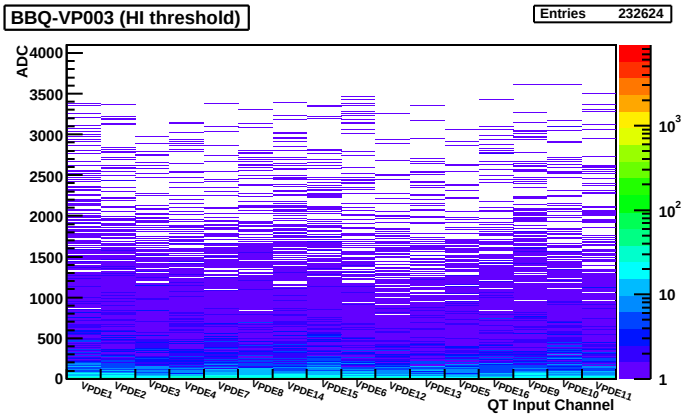

BBQ-ZD001 (ZDC TOWER)
Entries 232624
TAC

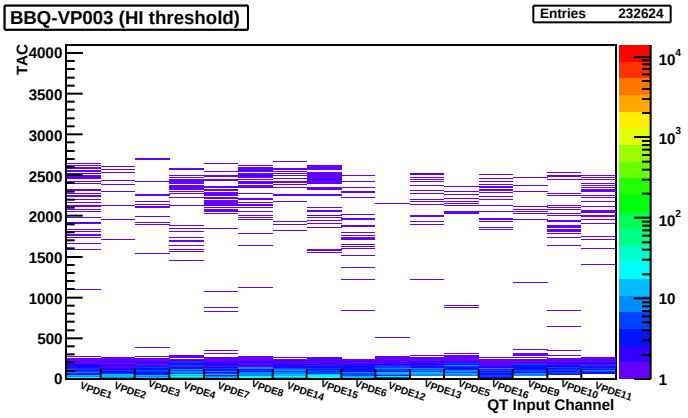

BBQ-VP001 (LO threshold)
Entries 232624
ADC
QT Input Channel

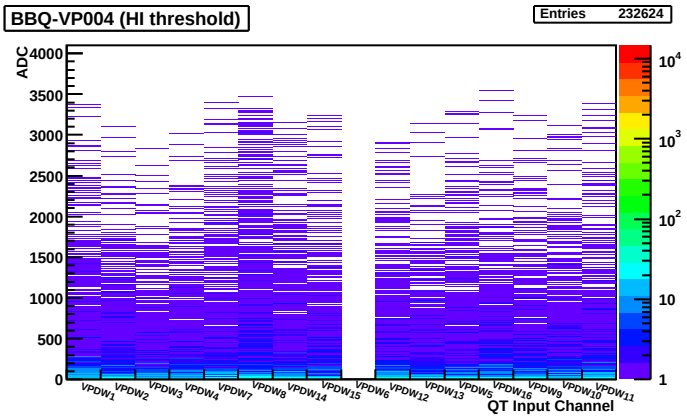

BBQ-VP001 (LO threshold)
Entries 232624
TAC
QT Input Channel

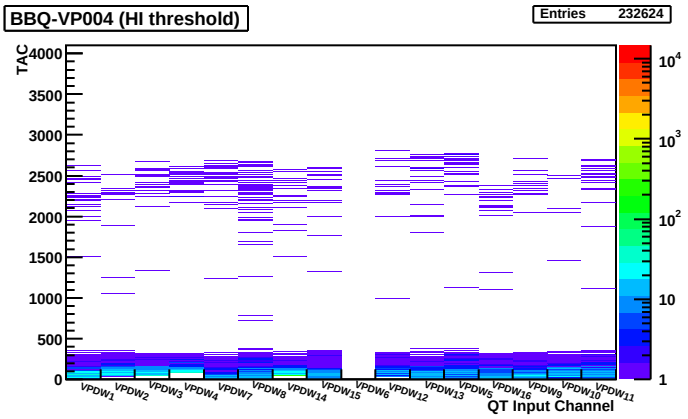

BBQ-VP002 (LO threshold)
Entries 232624
ADC
QT Input Channel

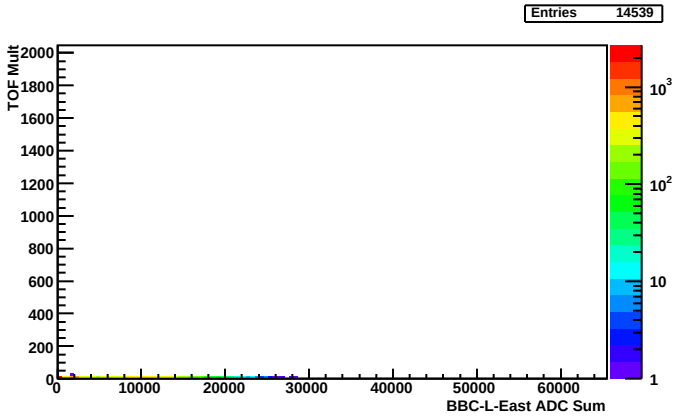

BBQ-VP002 (LO threshold)
Entries 232624
TAC
QT Input Channel

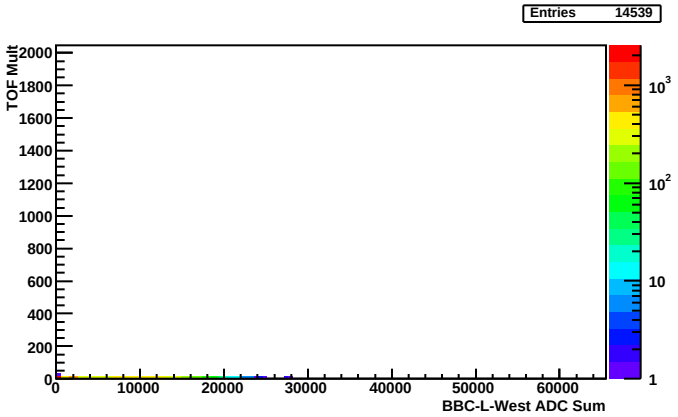

BBQ-VP003 (HI threshold)
Entries 232624
ADC
QT Input Channel

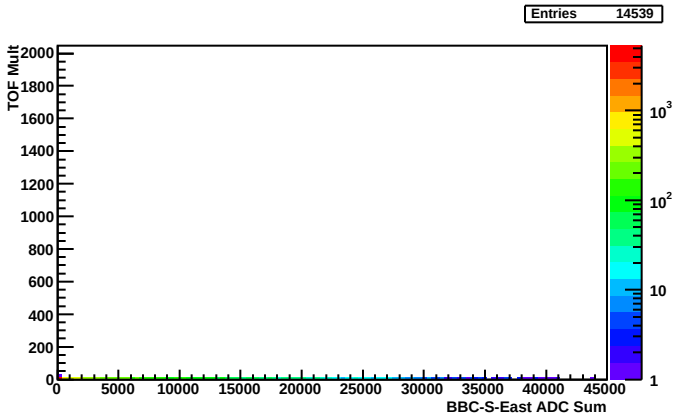

BBQ-VP003 (HI threshold)
Entries 232624
TAC
QT Input Channel

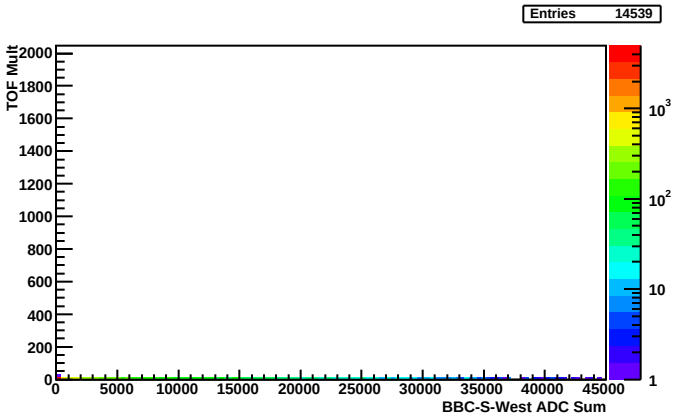

BBQ-VP004 (HI threshold)
Entries 232624
ADC
QT Input Channel

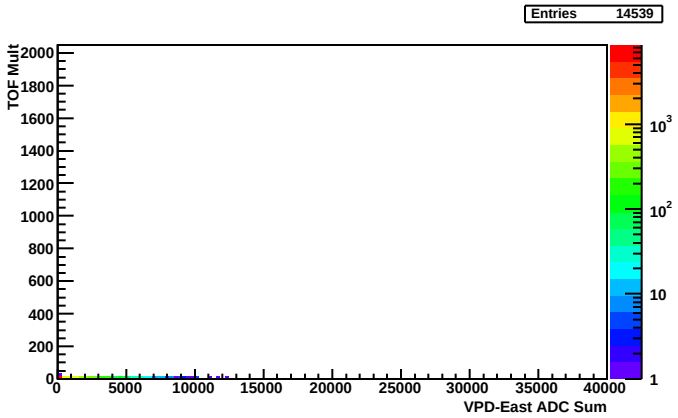

BBQ-VP004 (HI threshold)
Entries 232624
TAC
QT Input Channel

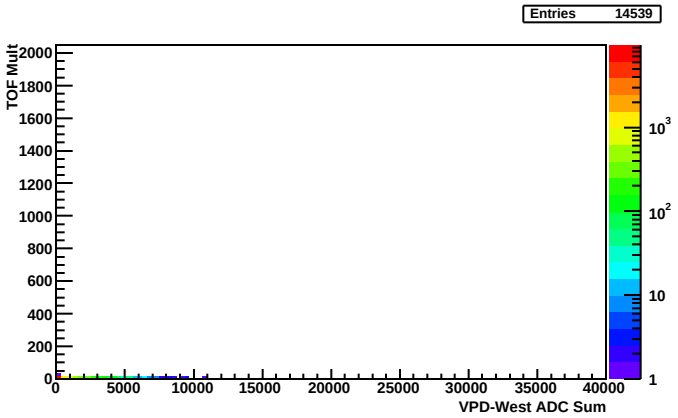

Entries 14539
TOF Mult
BBC-L-East ADC Sum

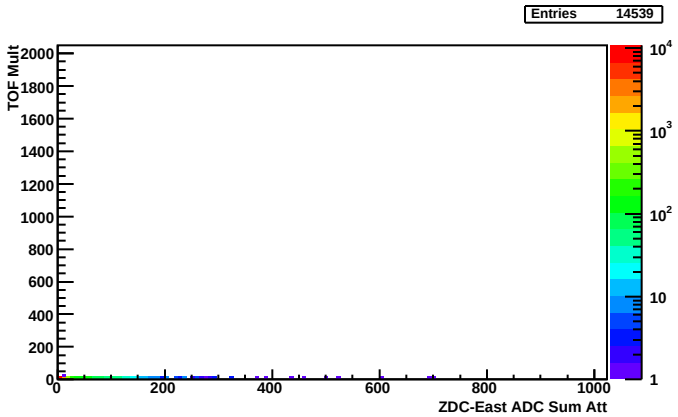

Entries 14539
TOF Mult
BBC-L-West ADC Sum

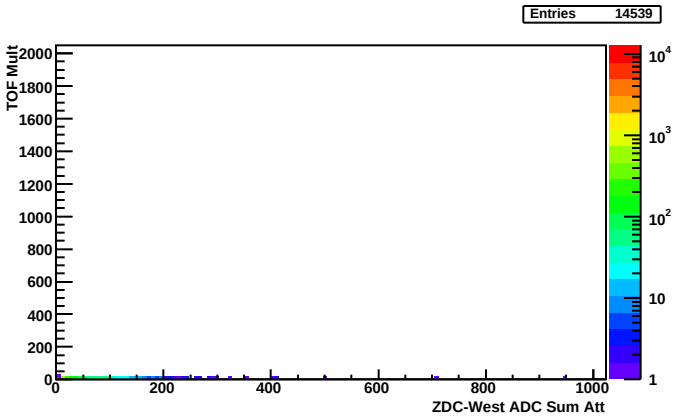

Entries 14539
TOF Mult
BBC-S-East ADC Sum

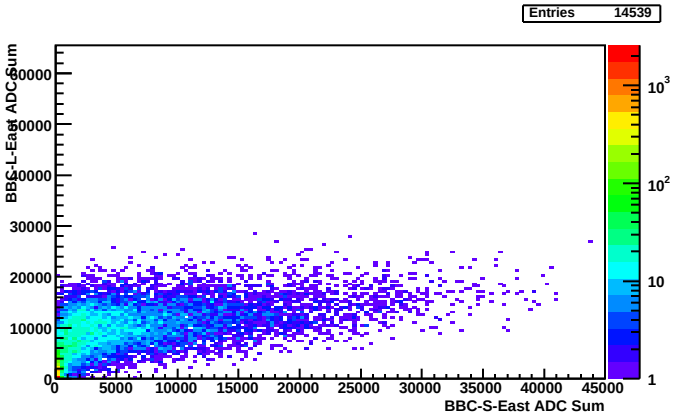

Entries 14539
TOF Mult
BBC-S-West ADC Sum

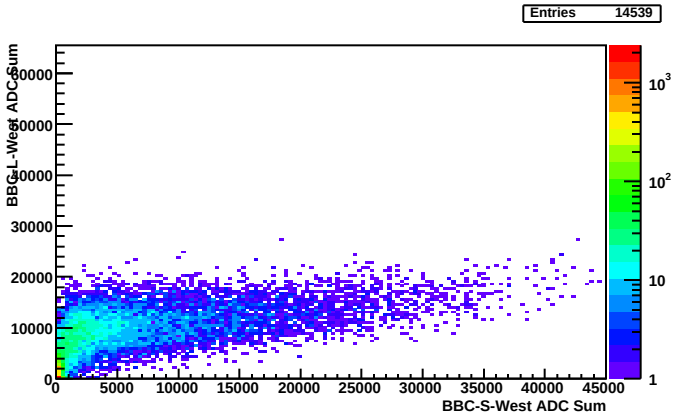

Entries 14539
TOF Mult
VPD-East ADC Sum

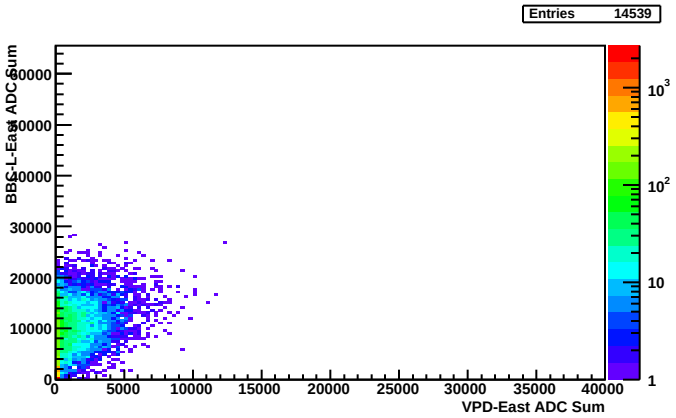

Entries 14539
TOF Mult
VPD-West ADC Sum

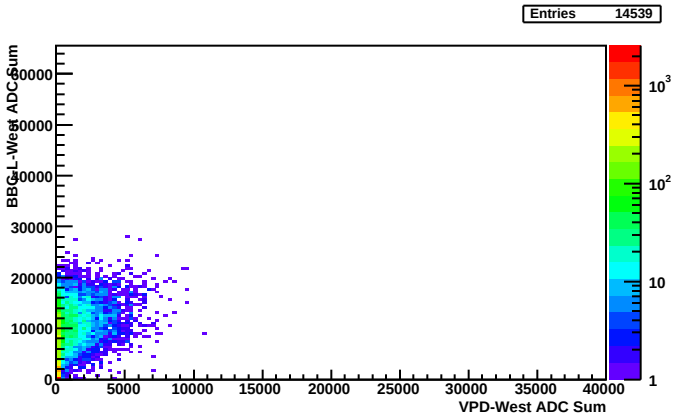

Entries 14539
TOF Mult
ZDC-East ADC Sum Att

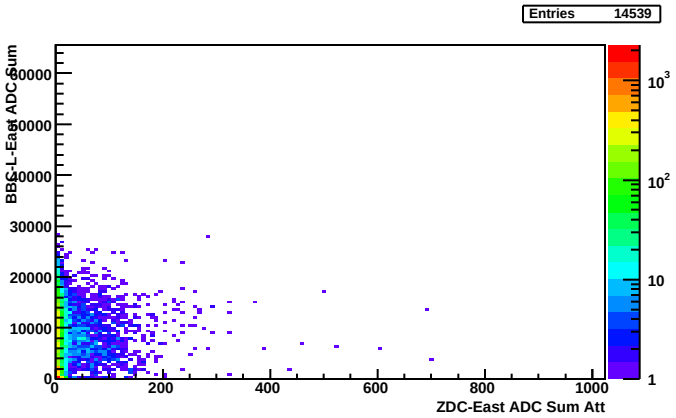

Entries 14539
TOF Mult
ZDC-West ADC Sum Att

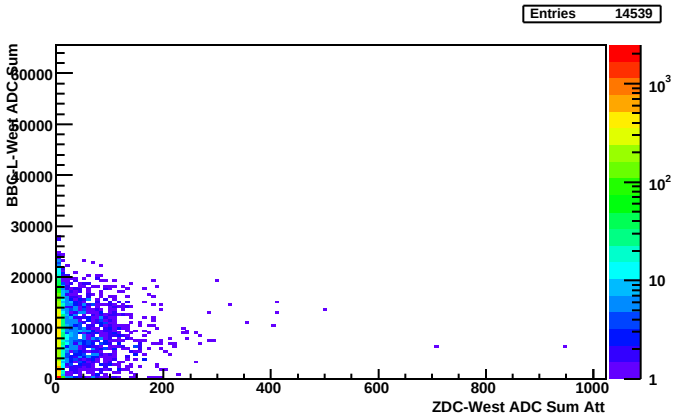

Entries 14539
BBC-L-East ADC Sum
BBC-S-East ADC Sum

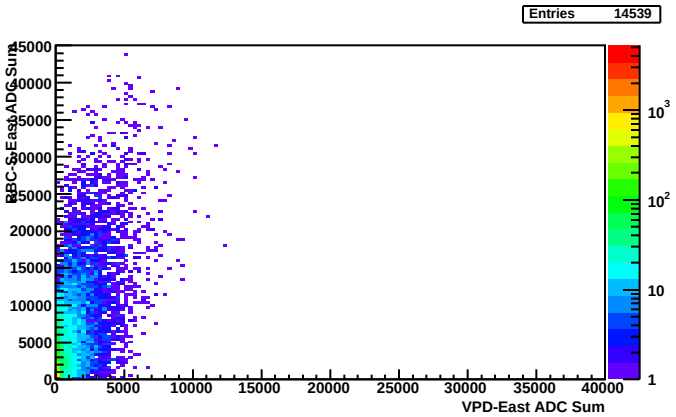

Entries 14539
BBC-L-West ADC Sum
BBC-S-West ADC Sum

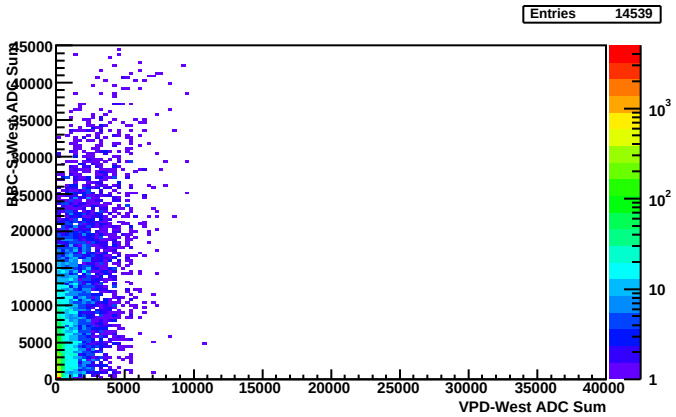

Entries 14539
BBC-L-East ADC Sum
VPD-East ADC Sum

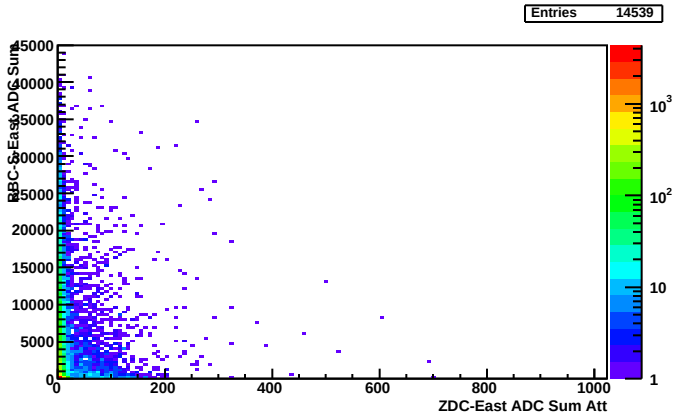

Entries 14539
BBC-L-West ADC Sum
VPD-West ADC Sum

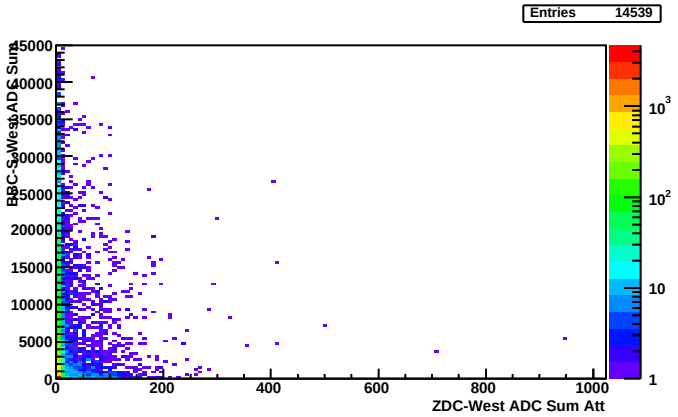

Entries 14539
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

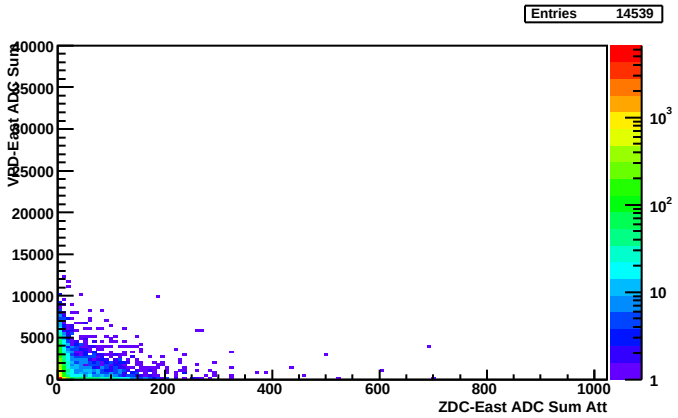

Entries 14539
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

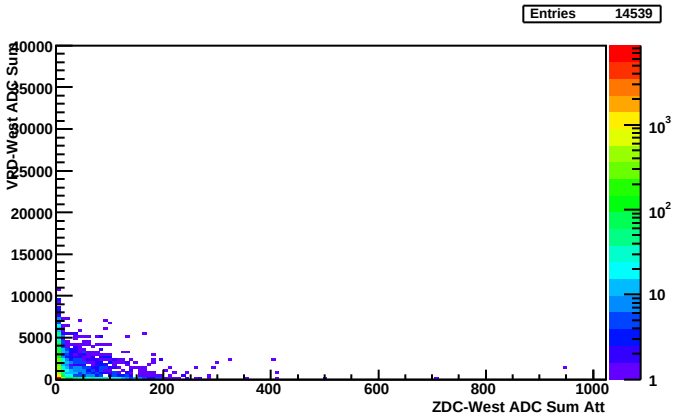

Entries 14539
BBC-S-East ADC Sum
VPD-East ADC Sum

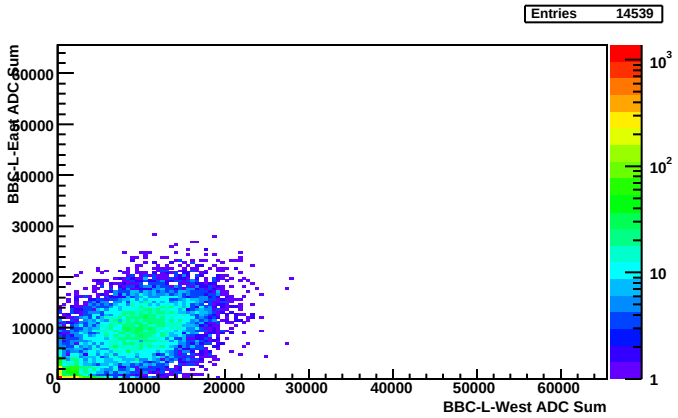

Entries 14539
BBC-S-West ADC Sum
VPD-West ADC Sum

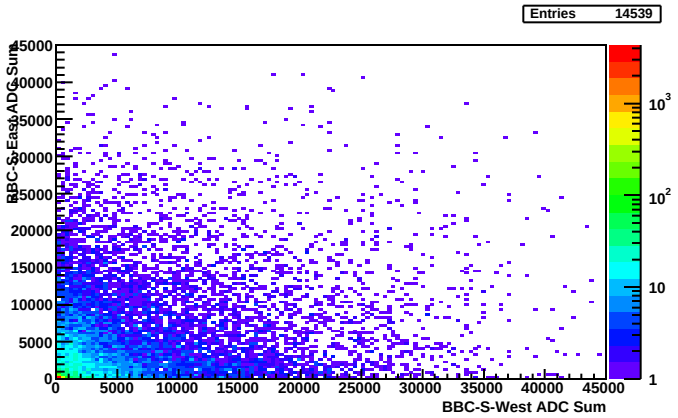

Entries 14539
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

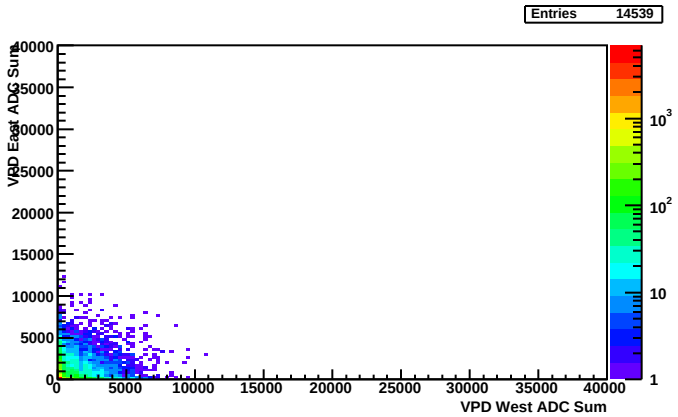

Entries 14539
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

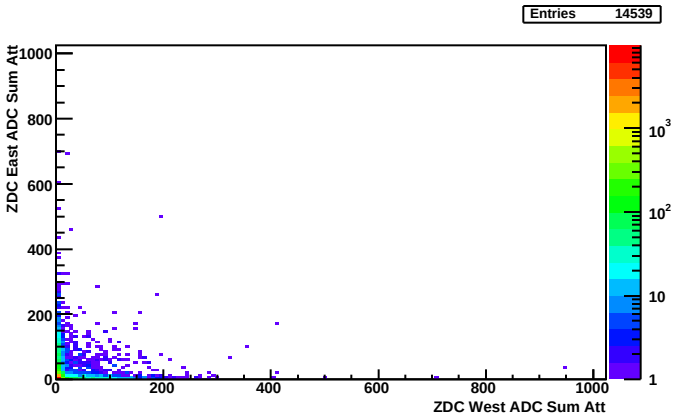

Entries 14539
VPD-East ADC Sum
ZDC-East ADC Sum Att

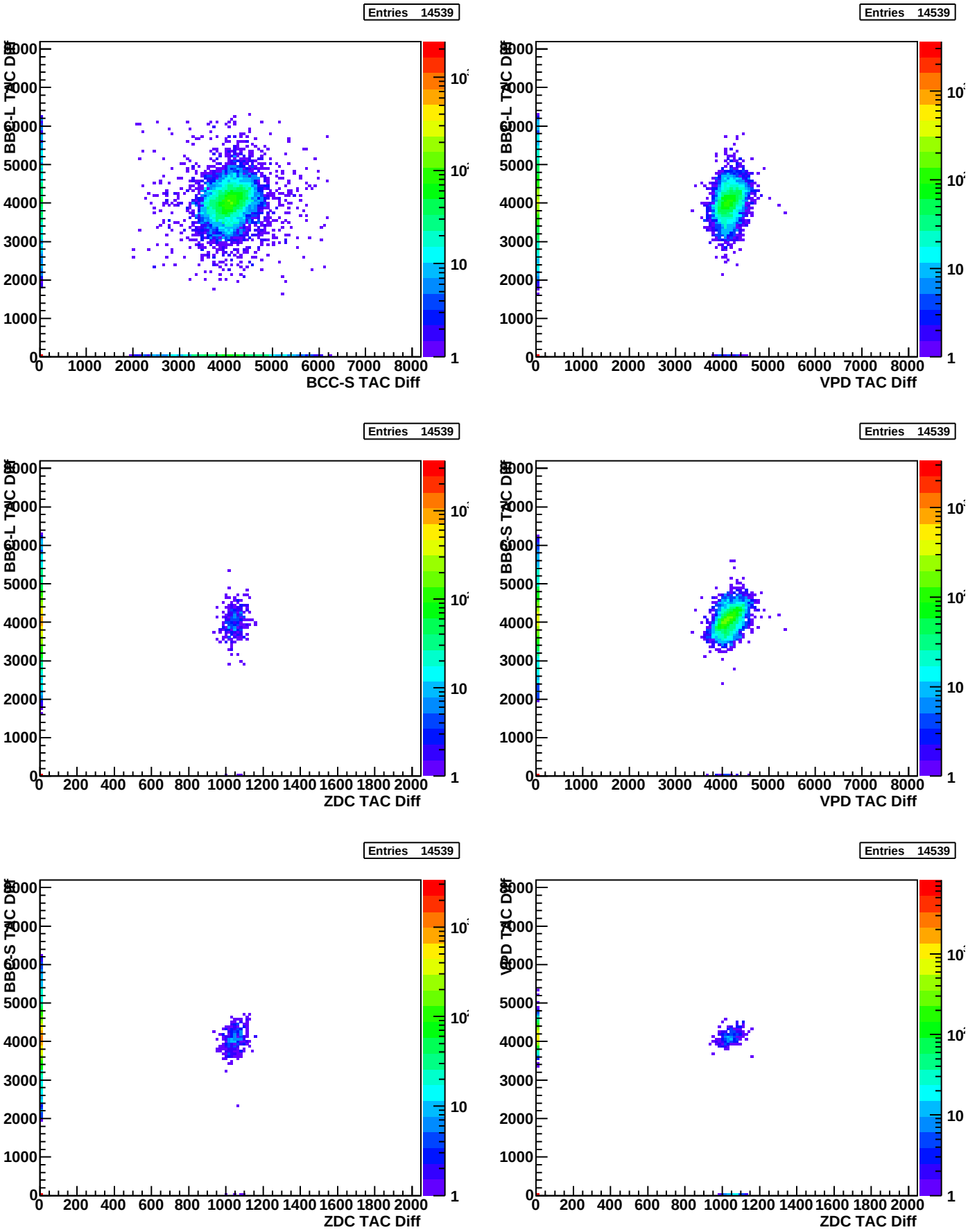

Entries 14539
VPD-West ADC Sum
ZDC-West ADC Sum Att

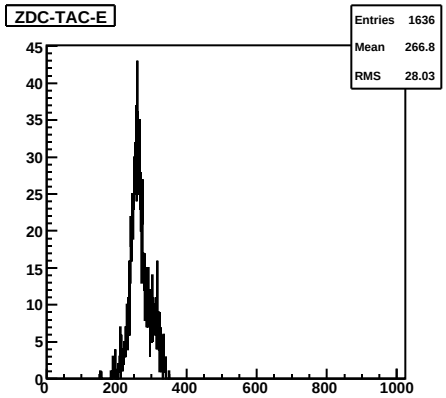

Entries 14539
BBC-L-East ADC Sum
BBC-L-West ADC Sum

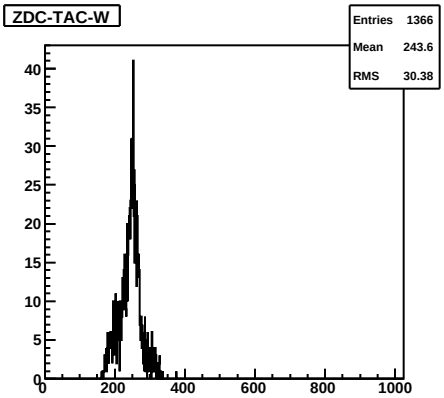

Entries 14539
BBC-S-East ADC Sum
BBC-S-West ADC Sum

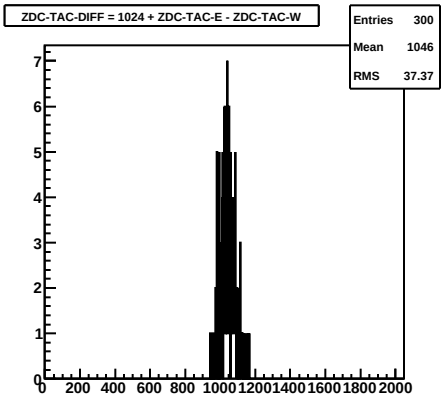

Entries 14539
VPD East ADC Sum
VPD West ADC Sum

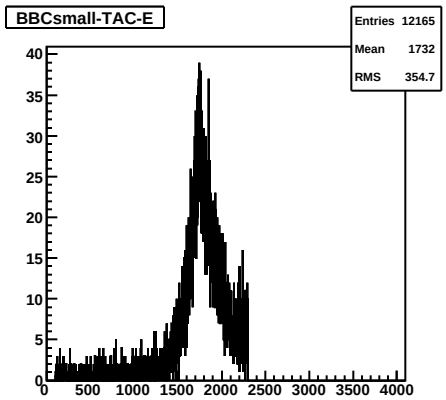

Entries 14539
ZDC East ADC Sum Att
ZDC West ADC Sum Att

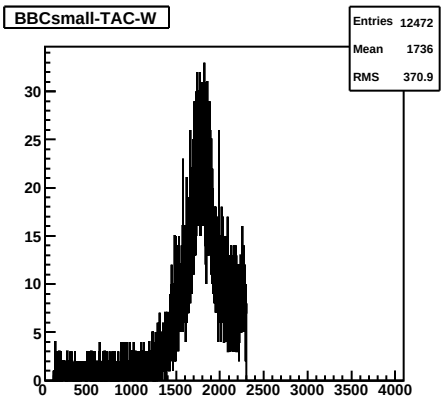

Entries 14539
BBC-L TAC Diff
BCC-S TAC Diff
Entries 14539
BBC-L TAC Diff
VPD TAC Diff
Entries 14539
BBC-L TAC Diff
ZDC TAC Diff
Entries 14539
BBC-S TAC Diff
VPD TAC Diff
Entries 14539
BBC-S TAC Diff
ZDC TAC Diff
Entries 14539
VPD TAC Diff
ZDC TAC Diff

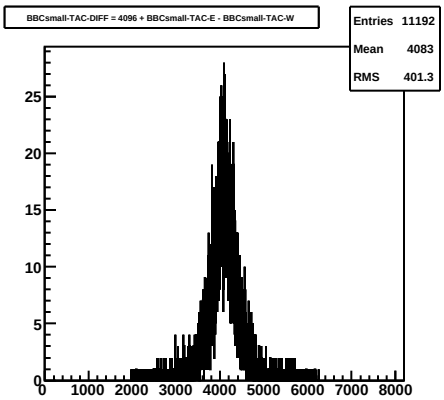

ZDC-TAC-E
Entries 1636
Mean 266.8
RMS 28.03

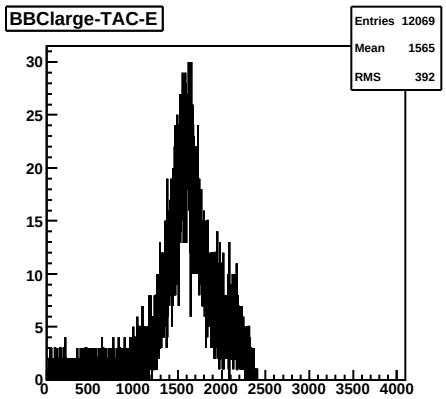

ZDC-TAC-W
Entries 1366
Mean 243.6
RMS 30.38

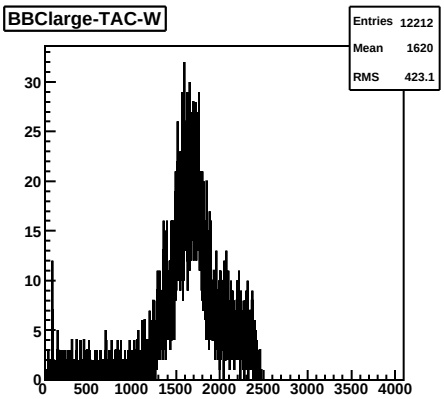

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 300
Mean 1046
RMS 37.37

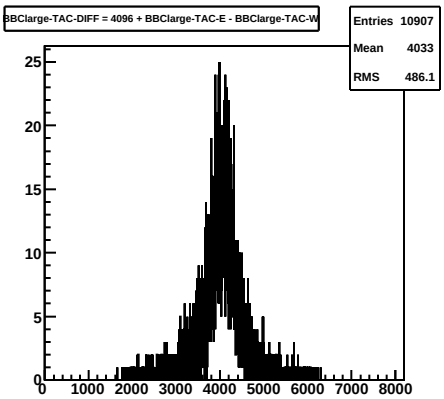

BBCsmall-TAC-E
Entries 12165
Mean 1732
RMS 354.7

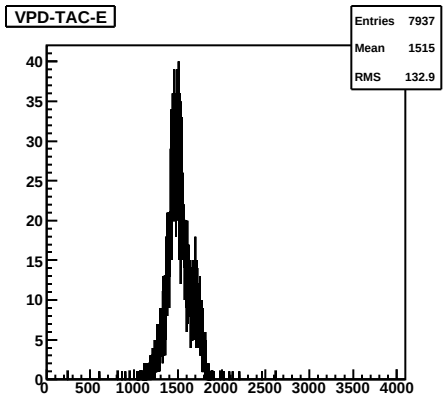

BBCsmall-TAC-W
Entries 12472
Mean 1736
RMS 370.9

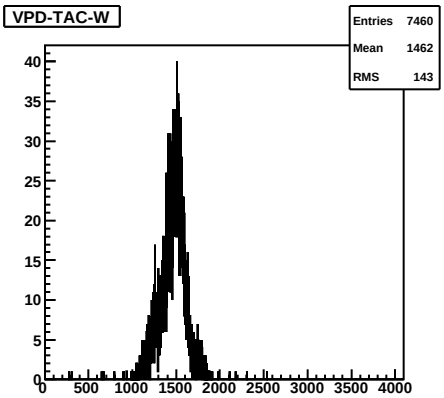

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 11192
Mean 4083
RMS 401.3

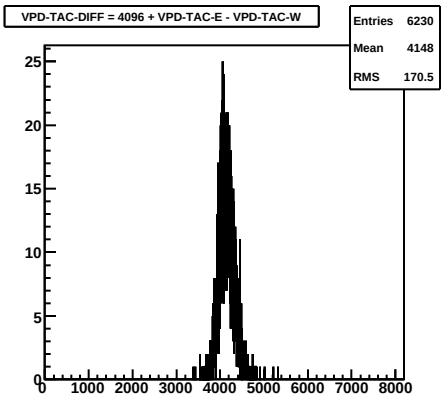

BBClarge-TAC-E
Entries 12069
Mean 1565
RMS 392

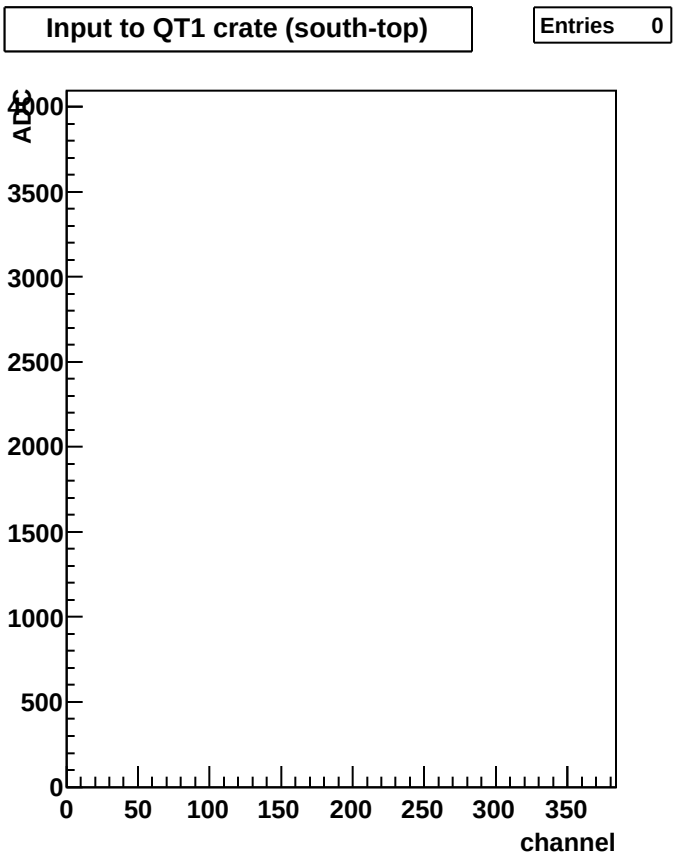

BBClarge-TAC-W
Entries 12212
Mean 1620
RMS 423.1

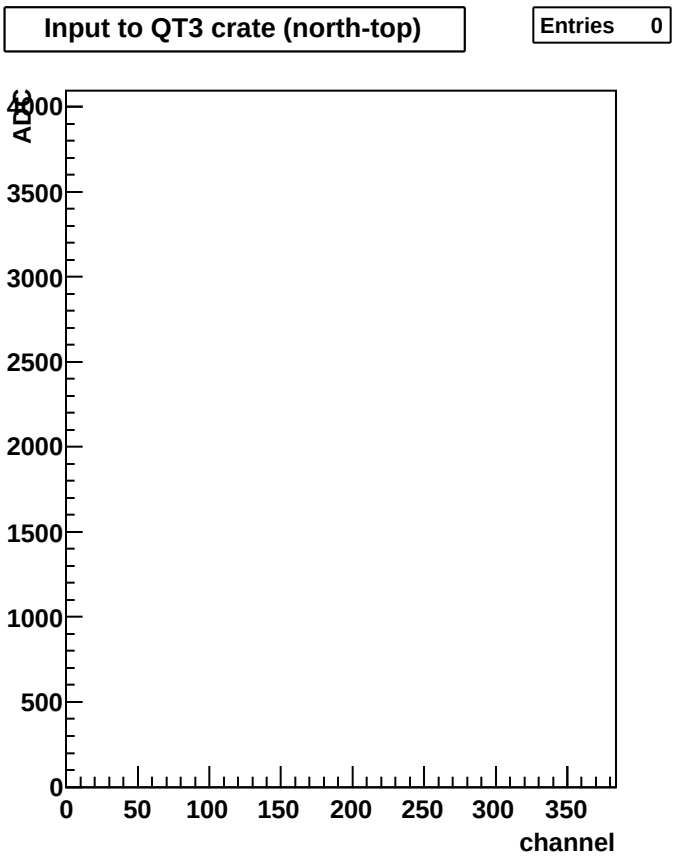

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 10907
Mean 4033
RMS 486.1

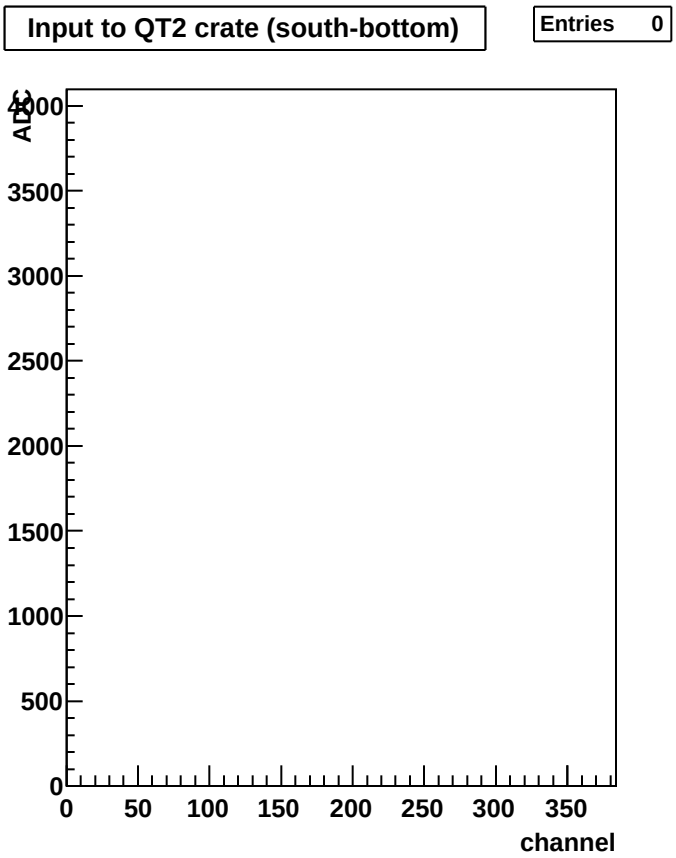

VPD-TAC-E
Entries 7937
Mean 1515
RMS 132.9

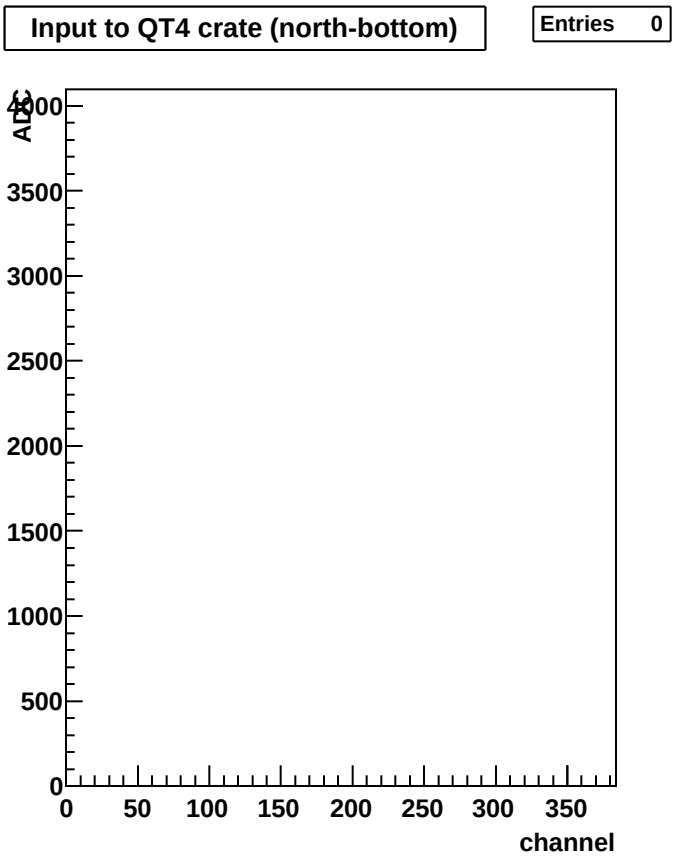

VPD-TAC-W
Entries 7460
Mean 1462
RMS 143

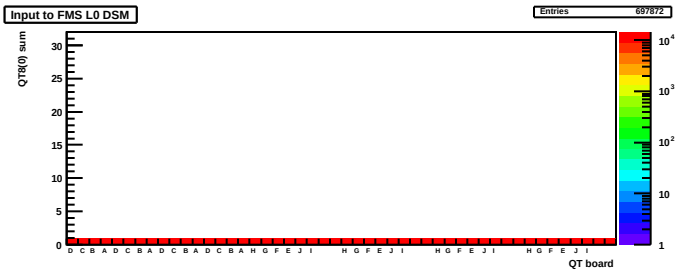

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 6230
Mean 4148
RMS 170.5

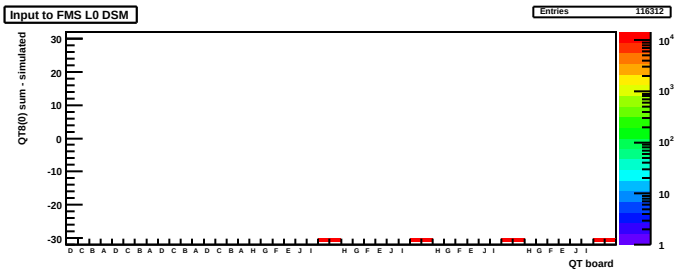

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

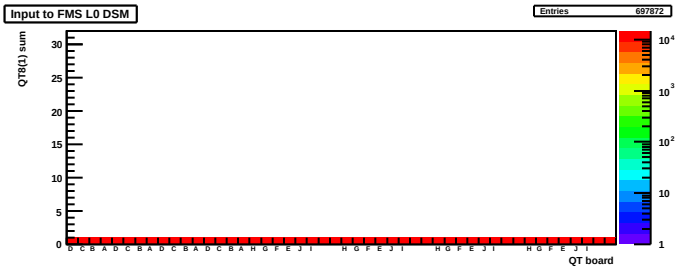

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

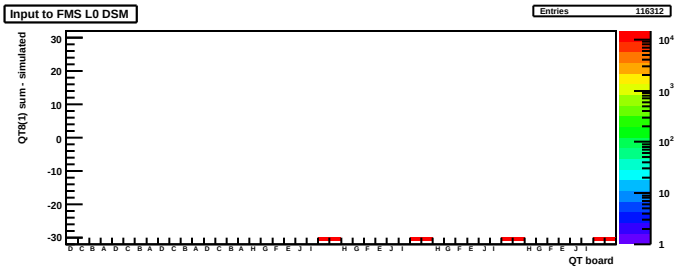

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

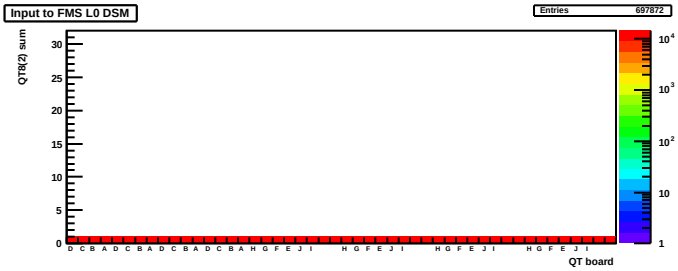

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

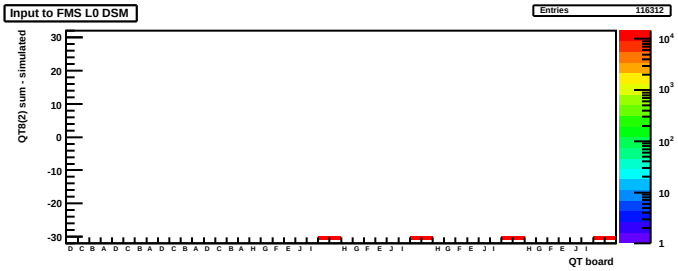

Input to FMS L0 DSM
Entries 697872
QT8(0) sum
QT board

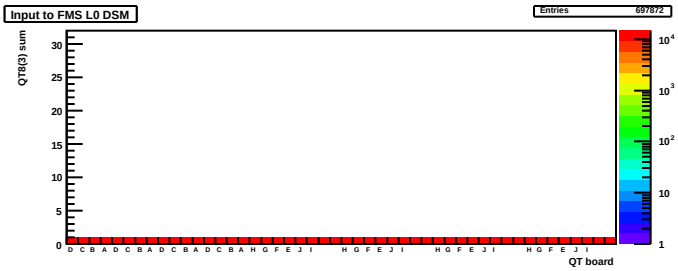

Input to FMS L0 DSM
Entries 116312
QT8(0) sum - simulated
QT board

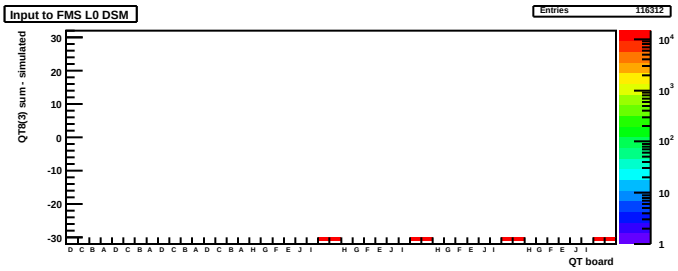

Input to FMS L0 DSM
Entries 697872
QT8(1) sum
QT board

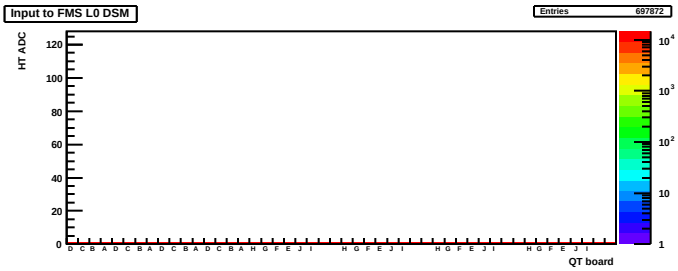

Input to FMS L0 DSM
Entries 116312
QT8(1) sum - simulated
QT board

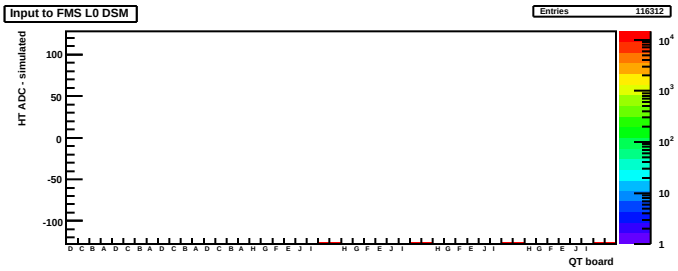

Input to FMS L0 DSM
Entries 697872
QT8(2) sum
QT board

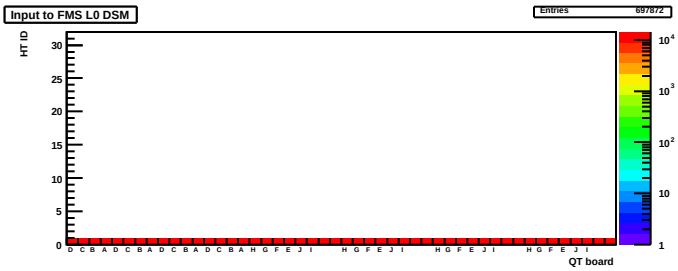

Input to FMS L0 DSM
Entries 116312
QT8(2) sum - simulated
QT board

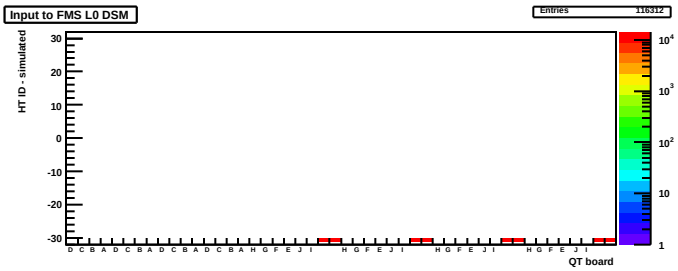

Input to FMS L0 DSM
Entries 697872
QT8(3) sum
QT board

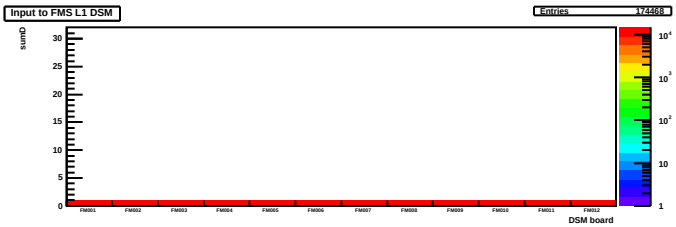

Input to FMS L0 DSM
Entries 116312
QT8(3) sum - simulated
QT board

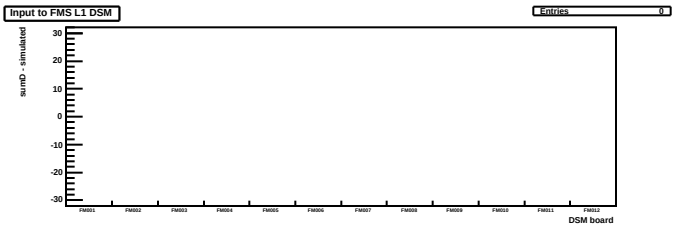

Input to FMS L0 DSM
Entries 697872
HT ADC
QT board

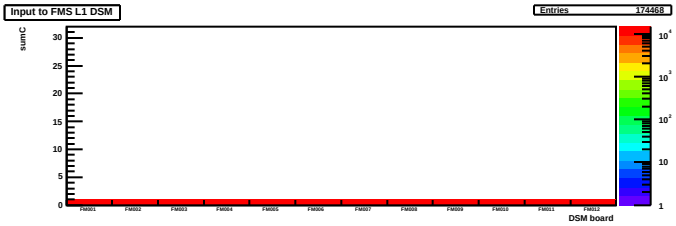

Input to FMS L0 DSM
Entries 116312
HT ADC - simulated
QT board

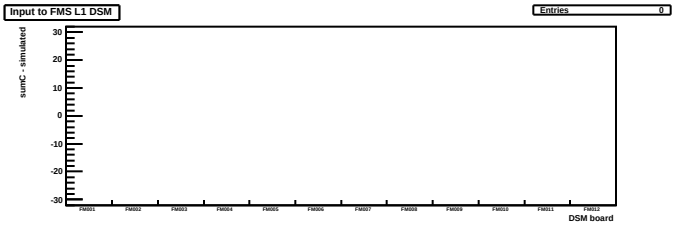

Input to FMS L0 DSM
Entries 697872
HT ID
QT board

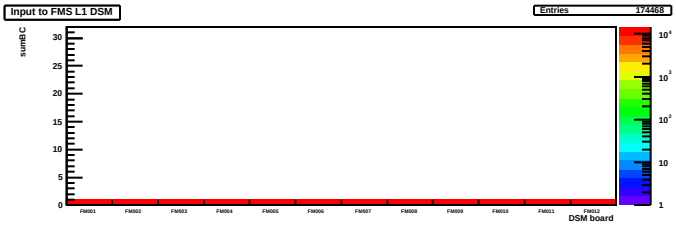

Input to FMS L0 DSM
Entries 116312
HT ID - simulated
QT board

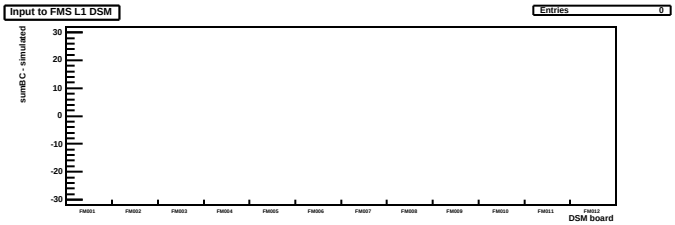

Input to FMS L1 DSM
Entries 174468
sumD
DSM board

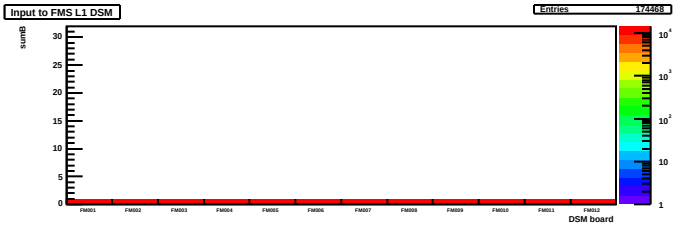

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

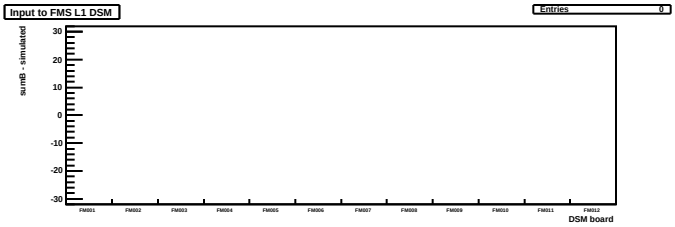

Input to FMS L1 DSM
Entries 174468
sumC
DSM board

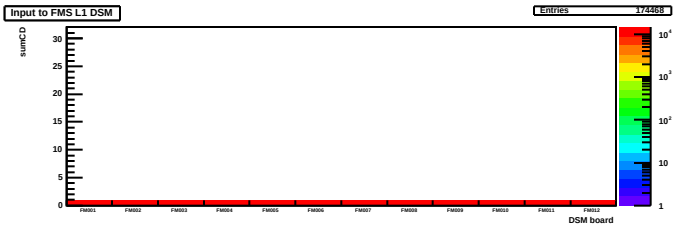

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

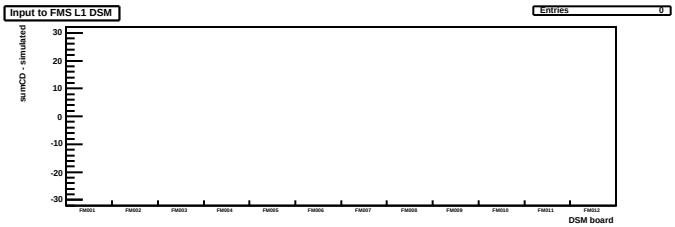

Input to FMS L1 DSM
Entries 174468
sumBC
DSM board

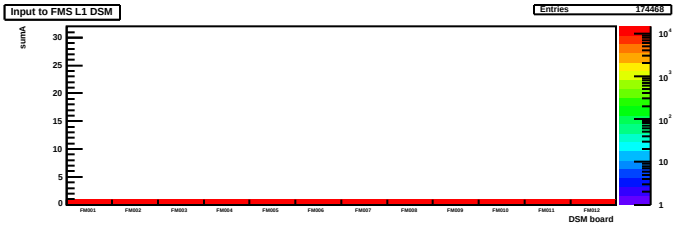

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

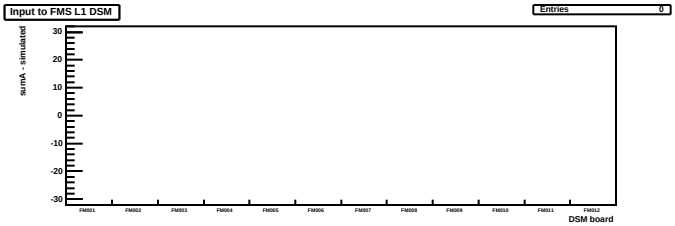

Input to FMS L1 DSM
Entries 174468
sumB
DSM board

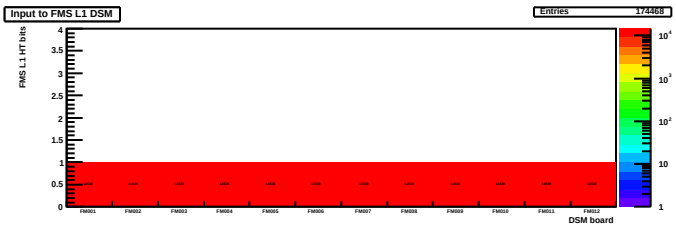

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

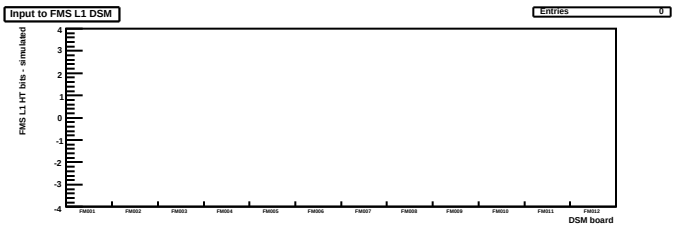

Input to FMS L1 DSM
Entries 174468
sumCD
DSM board

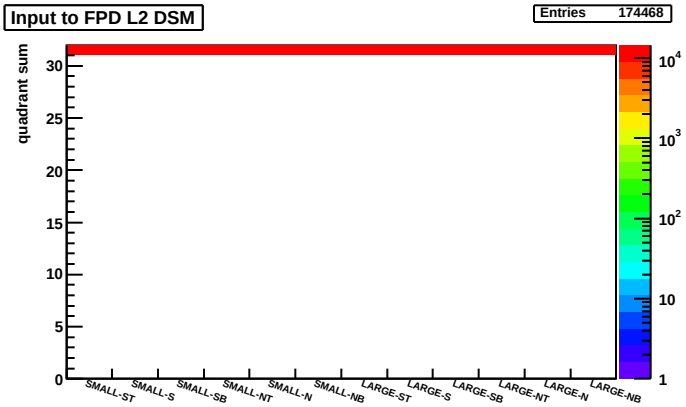

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

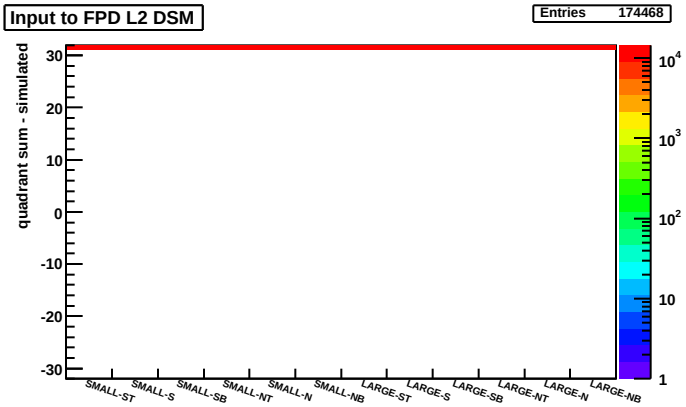

Input to FMS L1 DSM
Entries 174468
sumA
DSM board

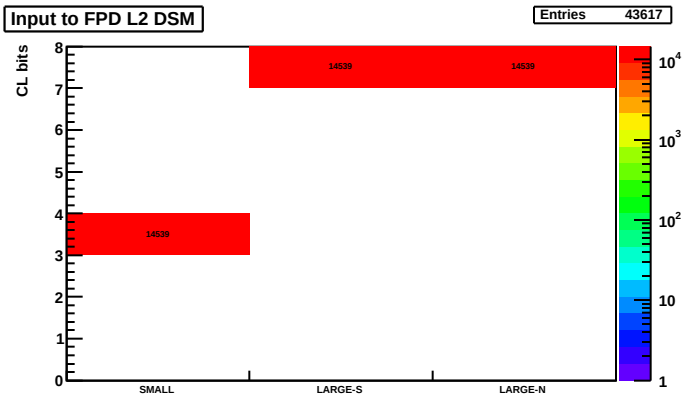

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

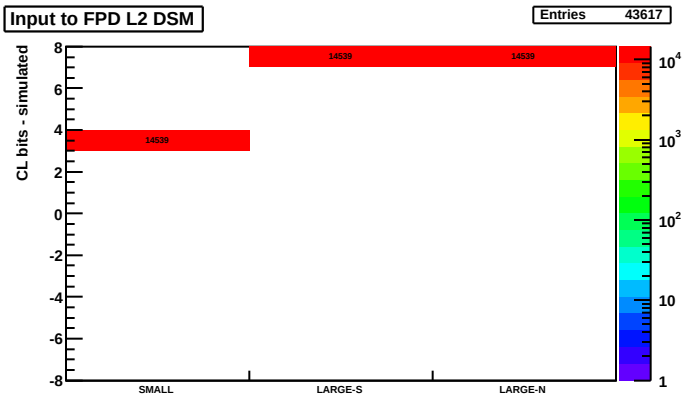

Input to FMS L1 DSM
Entries 174468
FMS L1 HT bits
DSM board

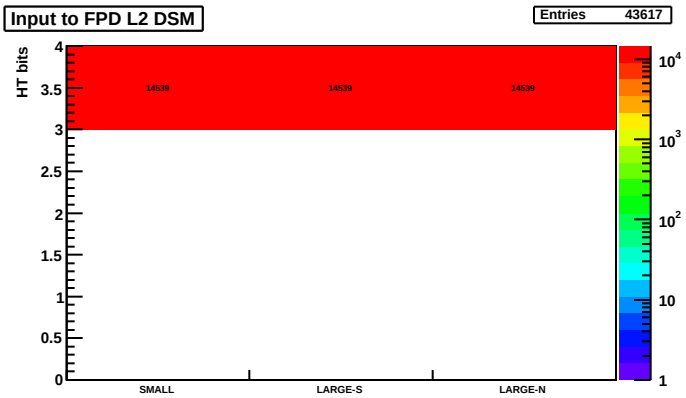

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

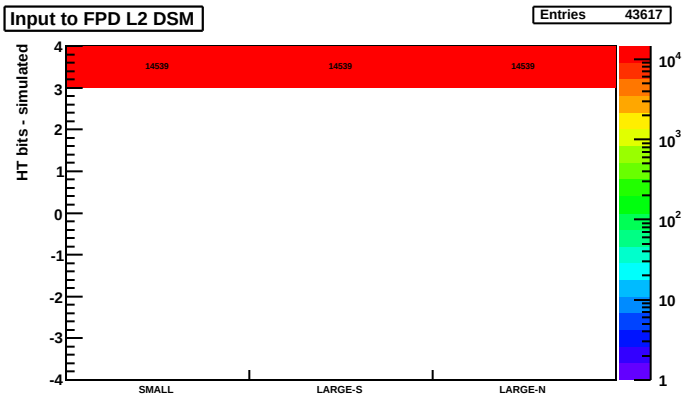

Input to FPD L2 DSM
Entries 174468
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

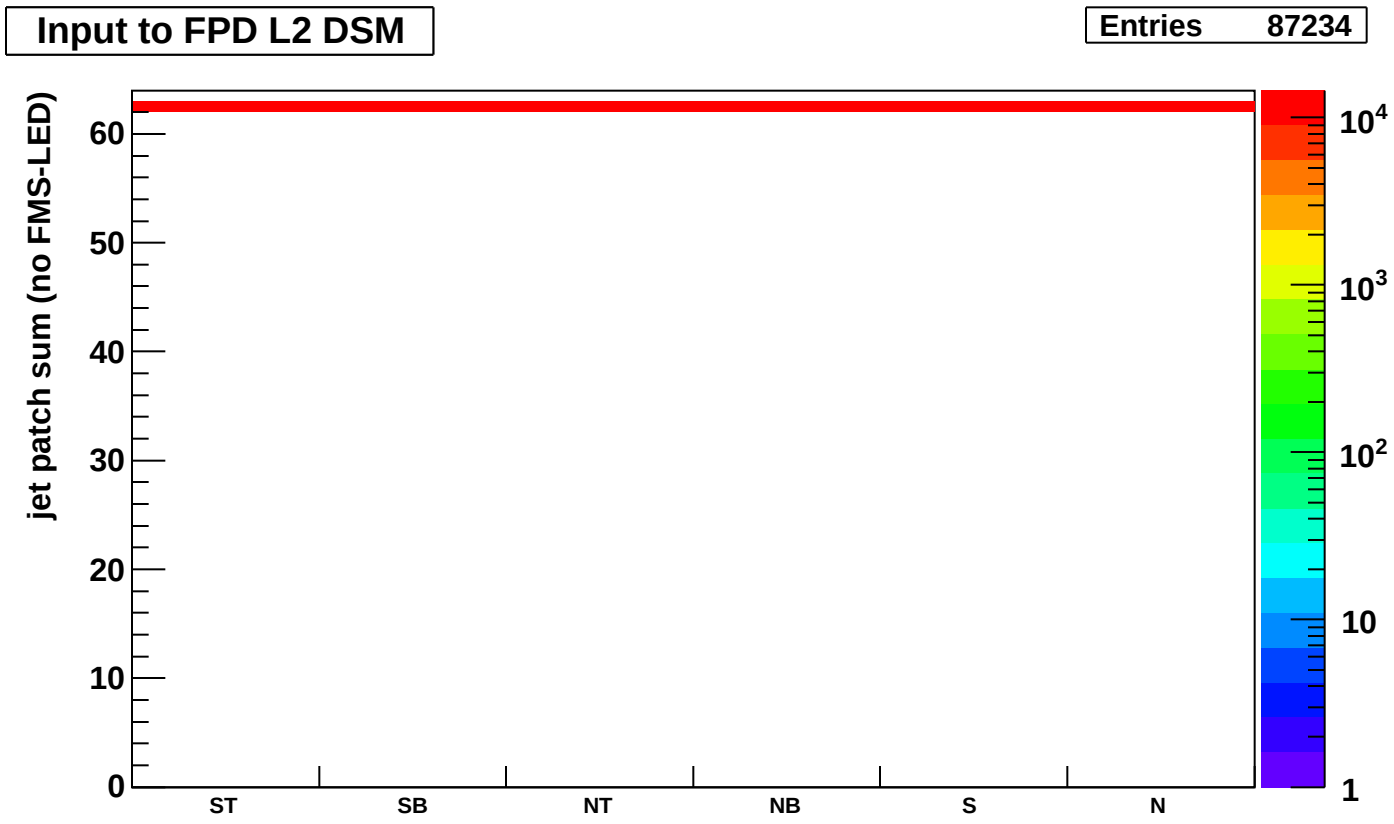

Input to FPD L2 DSM
Entries 174468
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

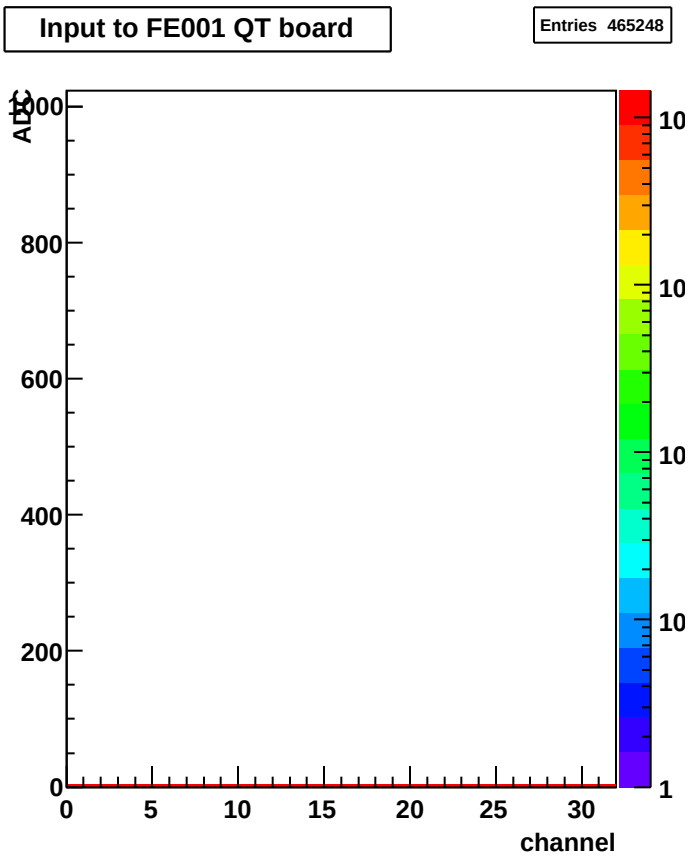

Input to FPD L2 DSM
Entries 43617
CL bits
14539
14539
14539
SMALL
LARGE-S
LARGE-N

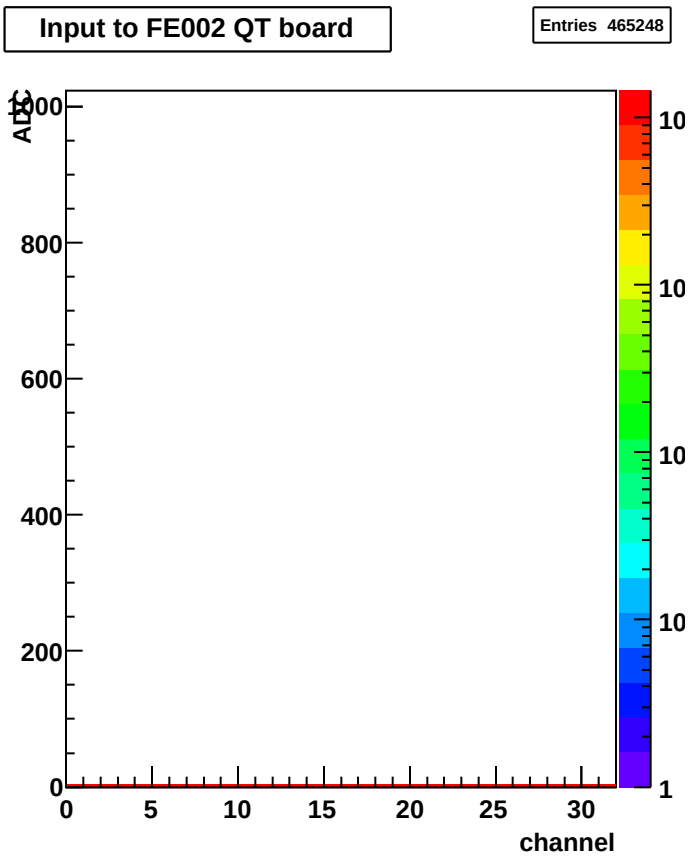

Input to FPD L2 DSM
Entries 43617
CL bits - simulated
14539
14539
14539
SMALL
LARGE-S
LARGE-N

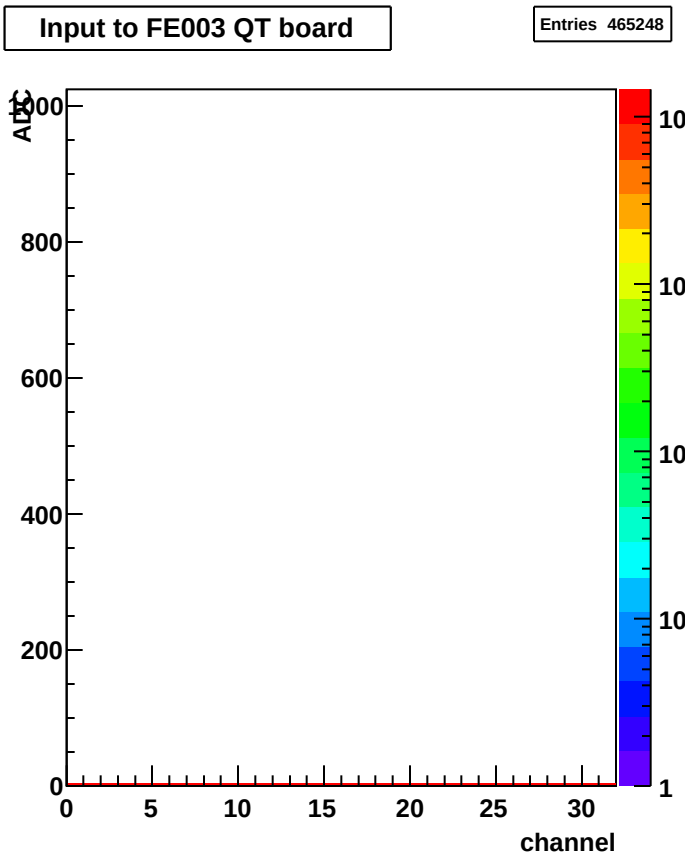

Input to FPD L2 DSM
Entries 43617
HT bits
14539
14539
14539
SMALL
LARGE-S
LARGE-N

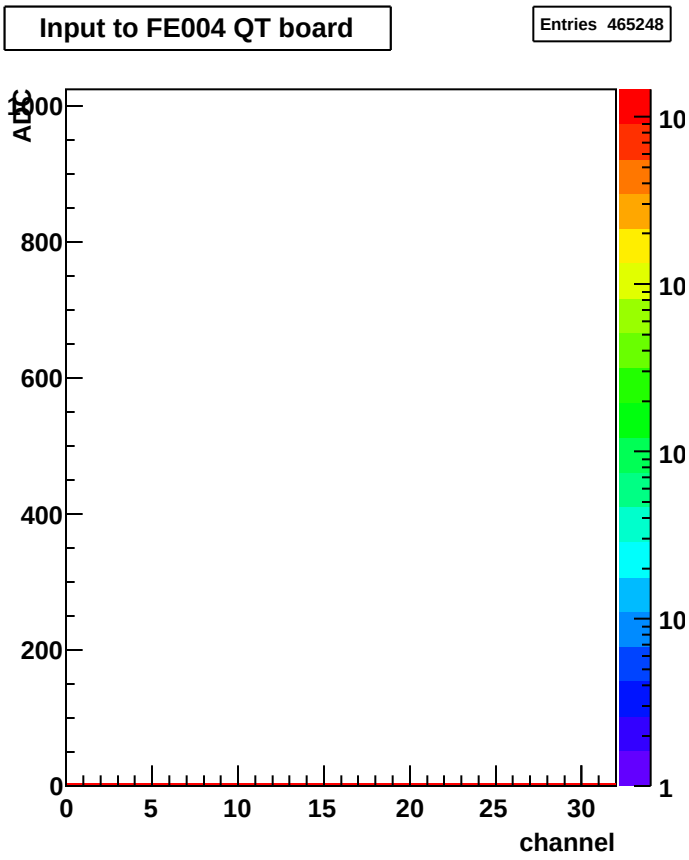

Input to FPD L2 DSM
Entries 43617
HT bits - simulated
14539
14539
14539
SMALL
LARGE-S
LARGE-N

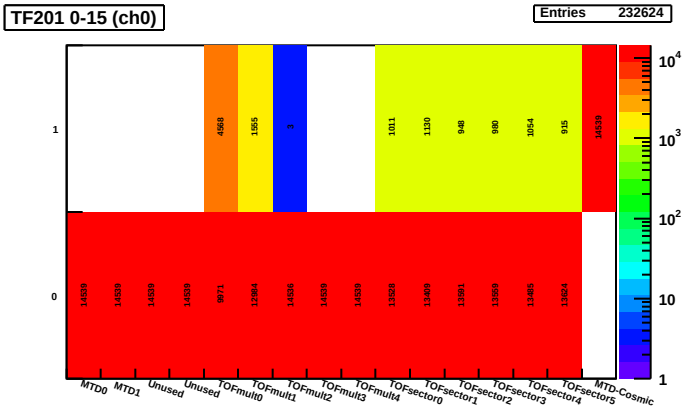

Input to FPD L2 DSM
Entries 87234
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

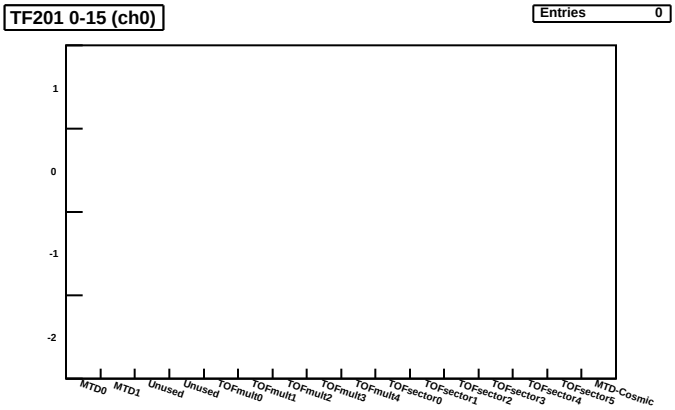

Input to FE001 QT board
Entries 465248
ADC
channel

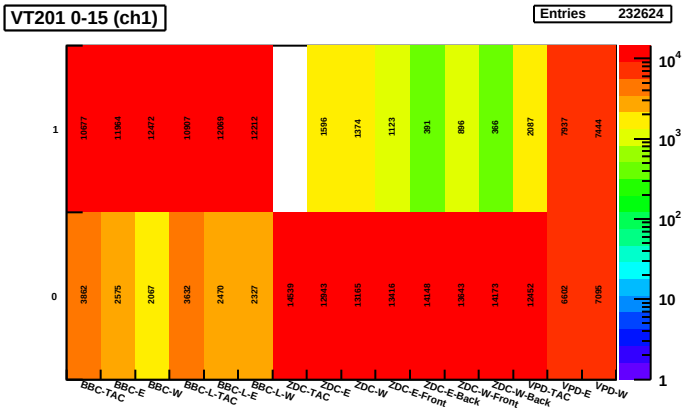

Input to FE002 QT board
Entries 465248
ADC
channel

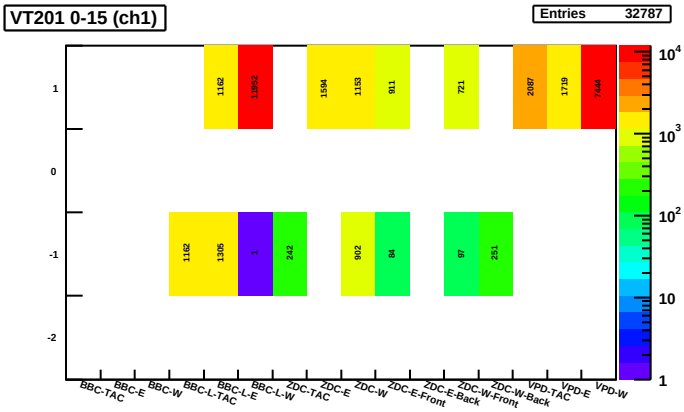

Input to FE003 QT board
Entries 465248
ADC
channel

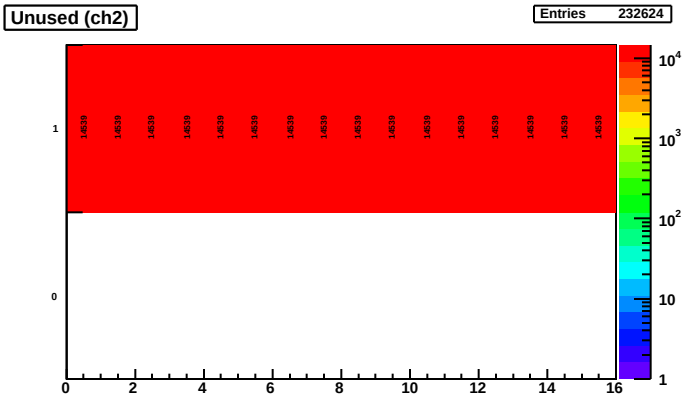

Input to FE004 QT board
Entries 465248
ADC
channel

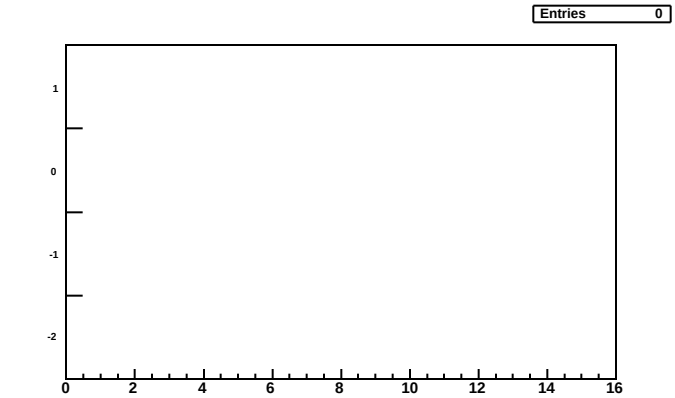

TF201 0-15 (ch0)
Entries 232624
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

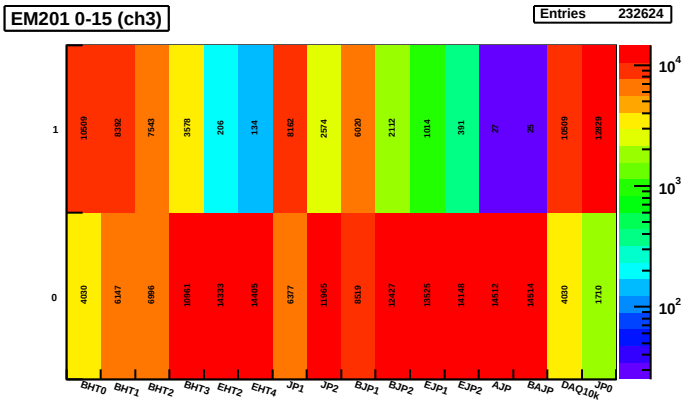

TF201 0-15 (ch0)
Entries 0
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

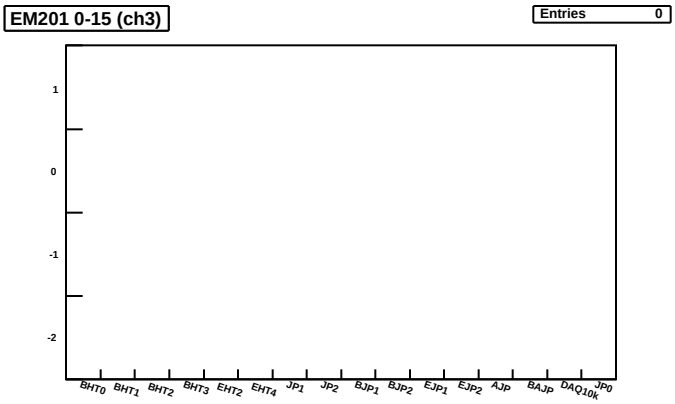

VT201 0-15 (ch1)
Entries 232624
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

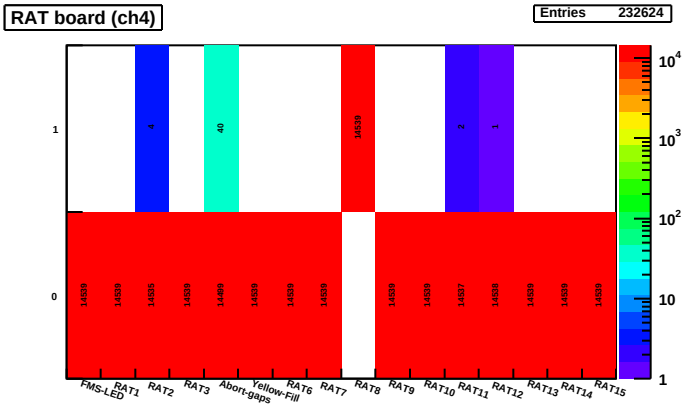

VT201 0-15 (ch1)
Entries 32787
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

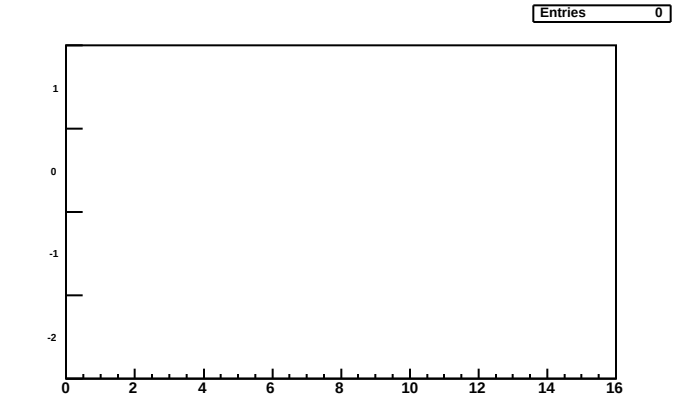

Unused (ch2)
Entries 232624

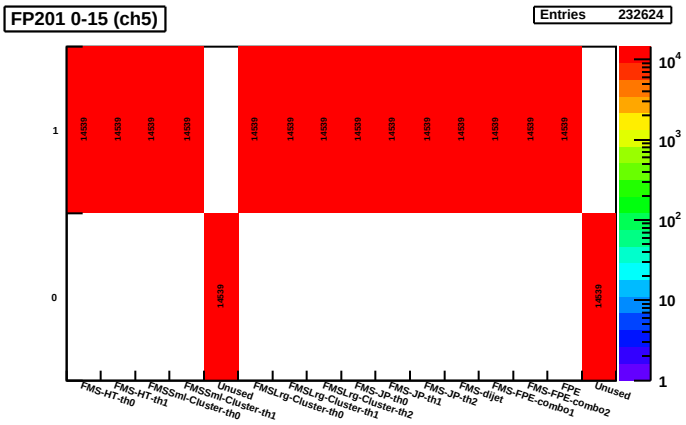

Entries 0

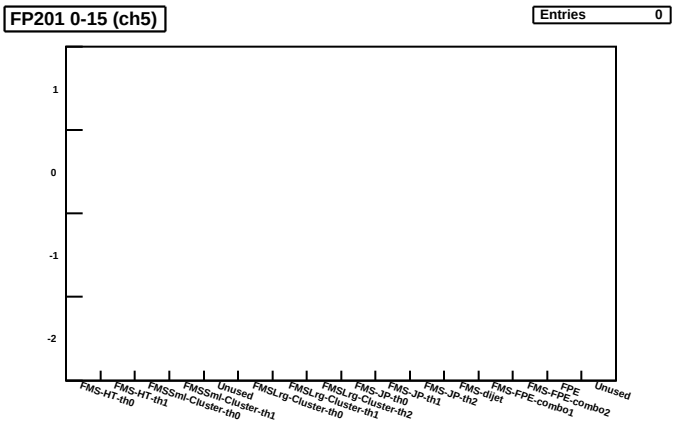

EM201 0-15 (ch3)
Entries 232624
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

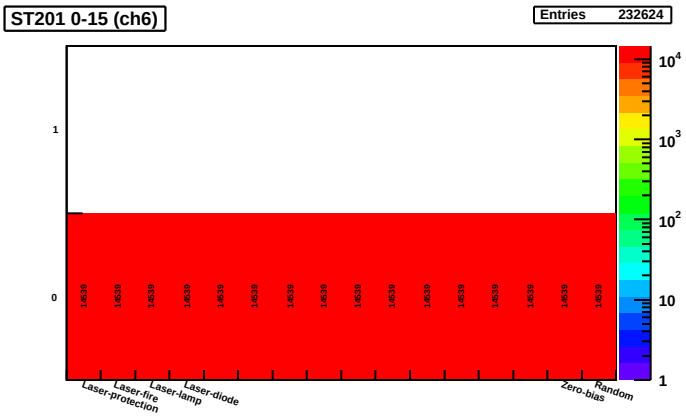

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

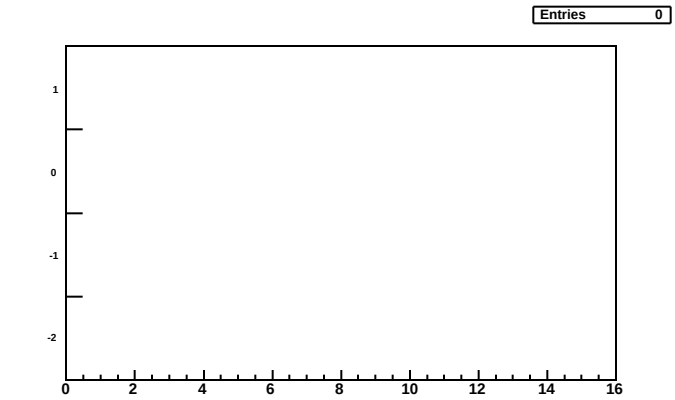

RAT board (ch4)
Entries 232624
FMS-LED
RAT1
RAT2
RAT3
Abort-gaps
Yellow-Fill
RAT6
RAT7
RAT8
RAT9
RAT10
RAT11
RAT12
RAT13
RAT14
RAT15

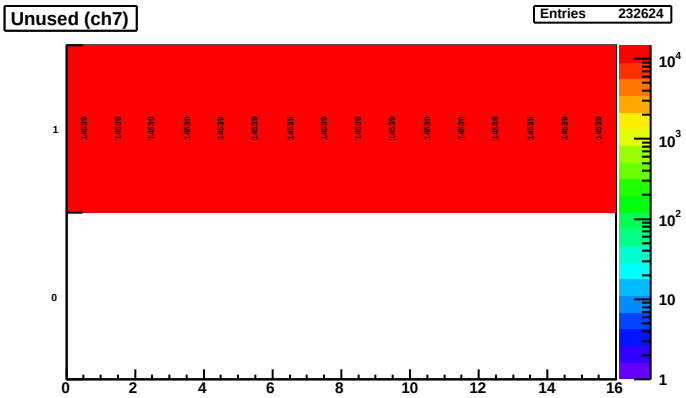

Entries 0

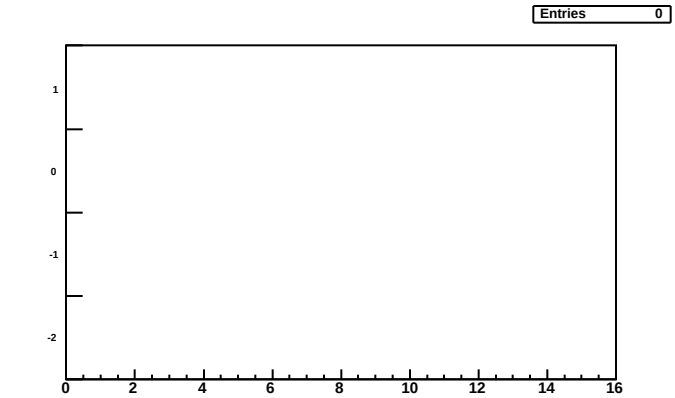

FP201 0-15 (ch5)
Entries 232624
FMS-HT-th0
FMS-HT-th1
FMSSml-Cluster-th0
FMSSml-Cluster-th1
Unused
FMSLrg-Cluster-th0
FMSLrg-Cluster-th1
FMSLrg-Cluster-th2
FMS-JP-th0
FMS-JP-th1
FMS-JP-th2
FMS-dijet
FMS-FPE-combo1
FPE
FMS-FPE-combo2
Unused


FP201 0-15 (ch5)
Entries 0
FMS-HT-th0
FMS-HT-th1
FMSSml-Cluster-th0
FMSSml-Cluster-th1
Unused
FMSLrg-Cluster-th0
FMSLrg-Cluster-th1
FMSLrg-Cluster-th2
FMS-JP-th0
FMS-JP-th1
FMS-JP-th2
FMS-dijet
FMS-FPE-combo1
FPE
FMS-FPE-combo2
Unused


ST201 0-15 (ch6)
Entries 232624
Laser-protection
Laser-fire
Laser-lamp
Laser-diode
Zero-bias
Random


Entries 0


Unused (ch7)
Entries 232624


Entries 0