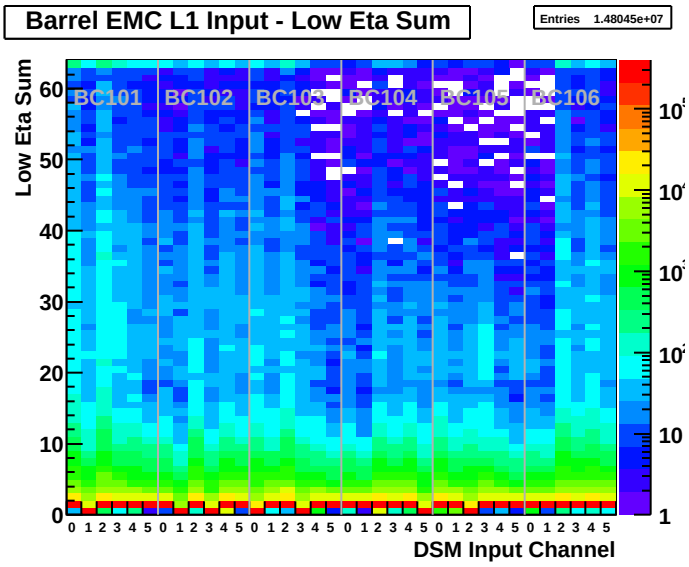
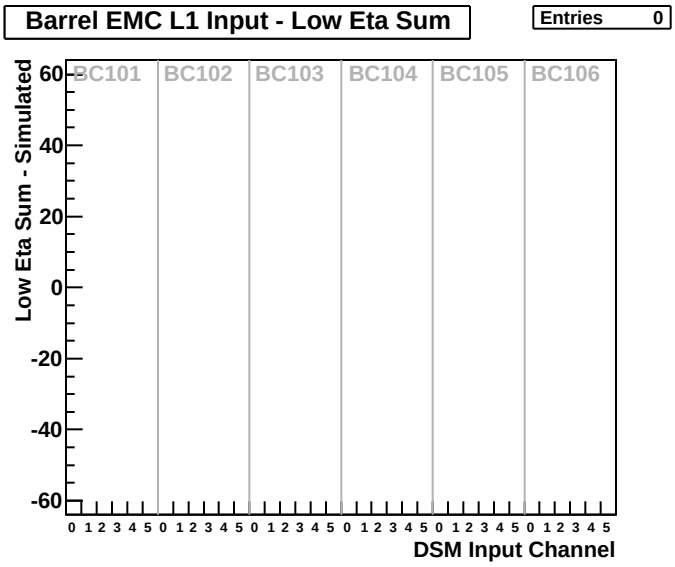
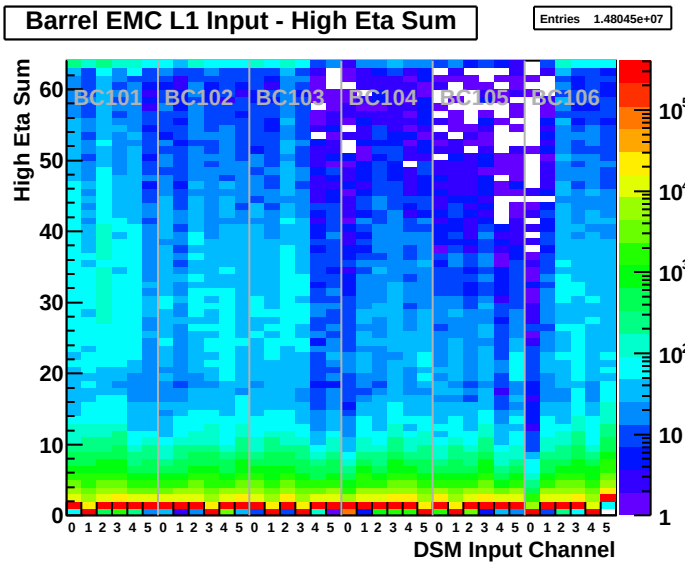
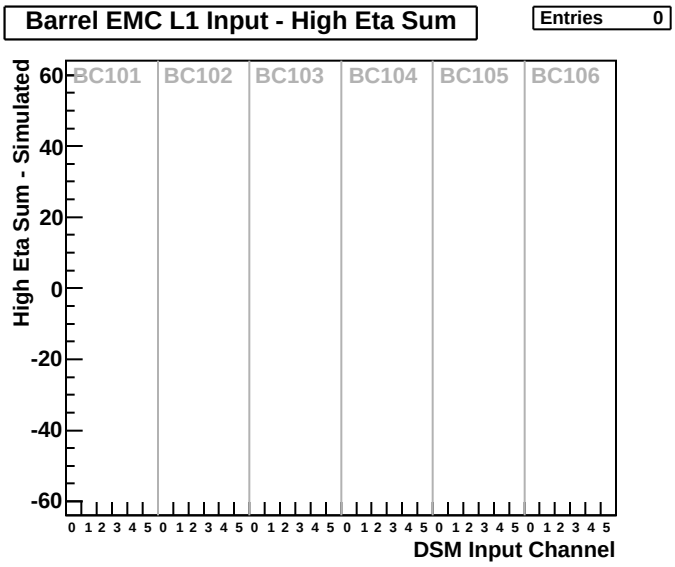
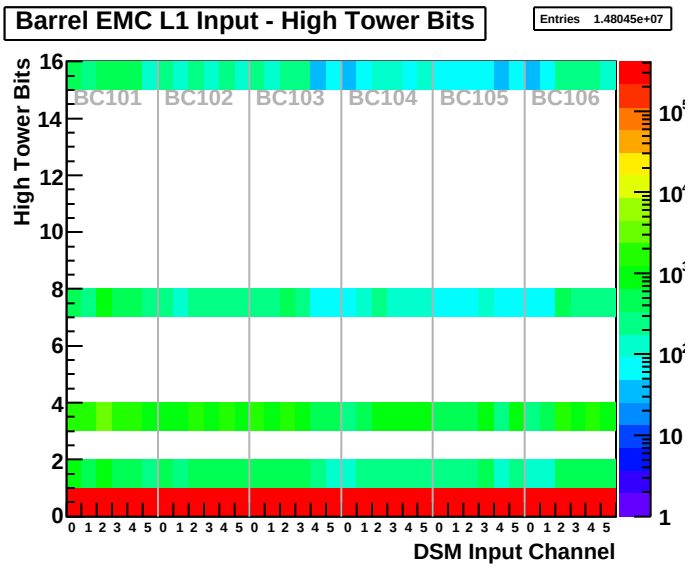
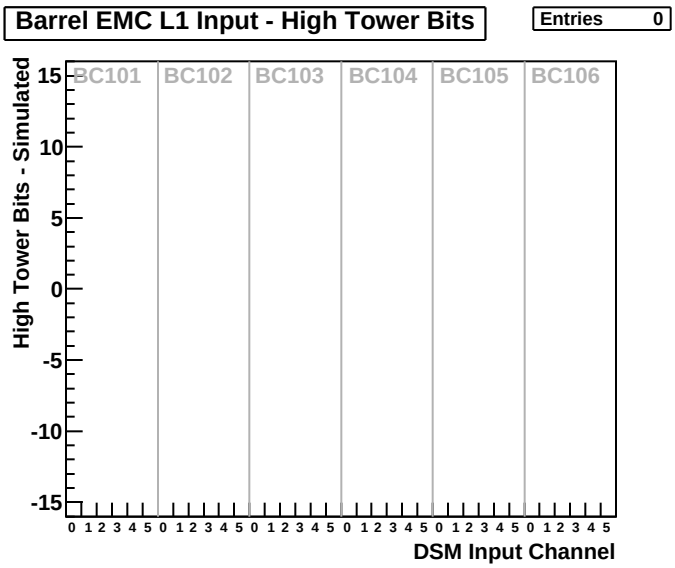

Barrel EMC L1 Input - Low Eta Sum
Entries 1.48045e+07
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

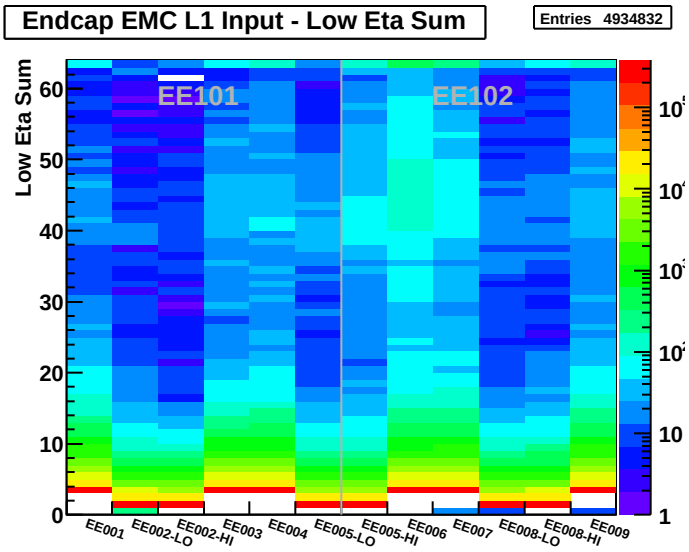

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

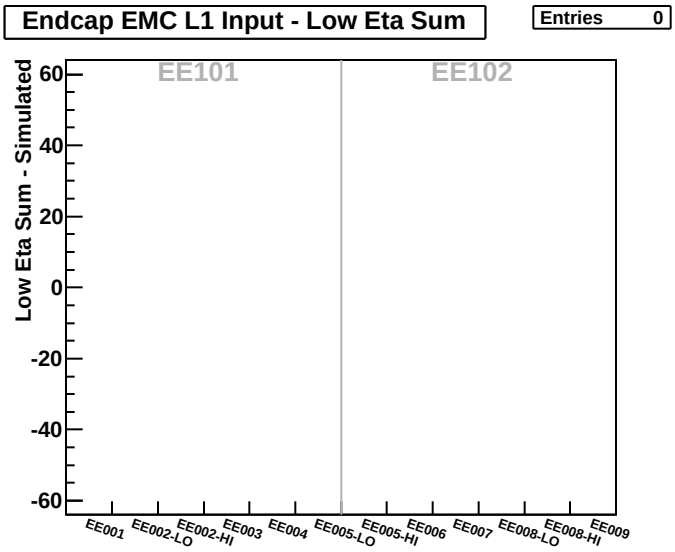

Barrel EMC L1 Input - High Eta Sum
Entries 1.48045e+07
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

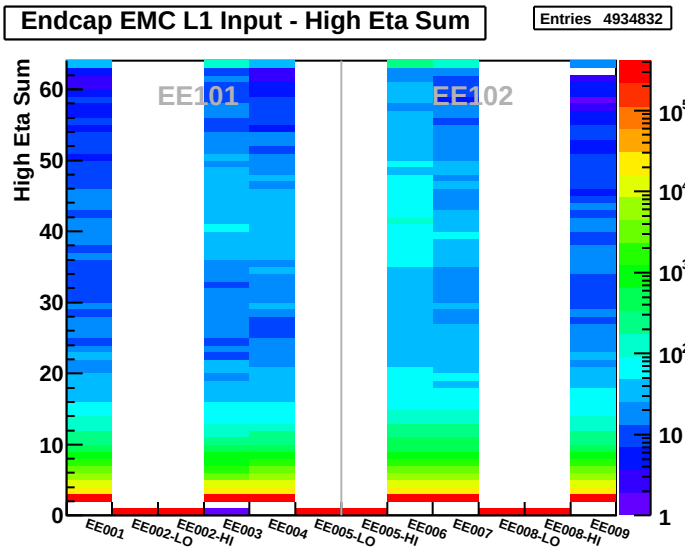

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

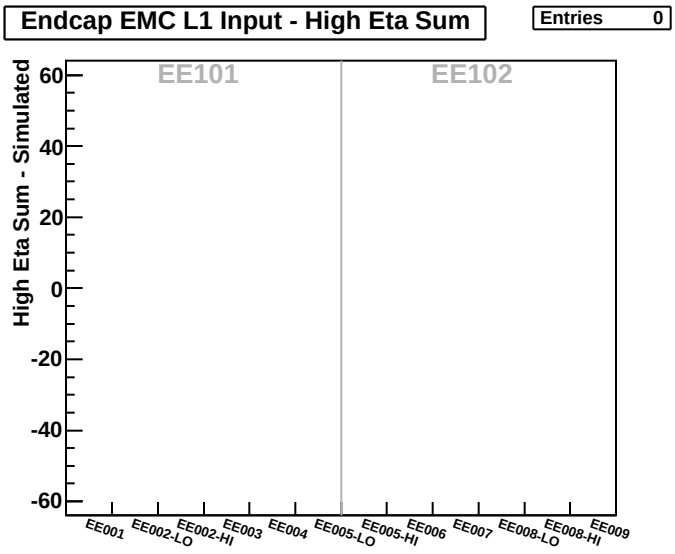

Barrel EMC L1 Input - High Tower Bits
Entries 1.48045e+07
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

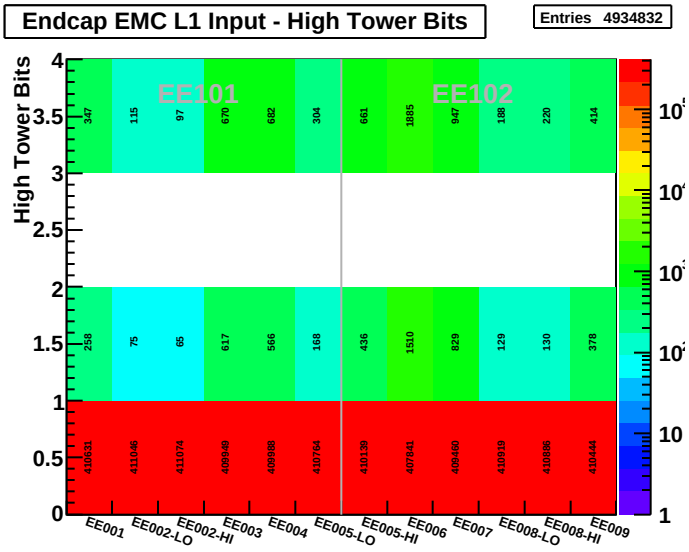

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

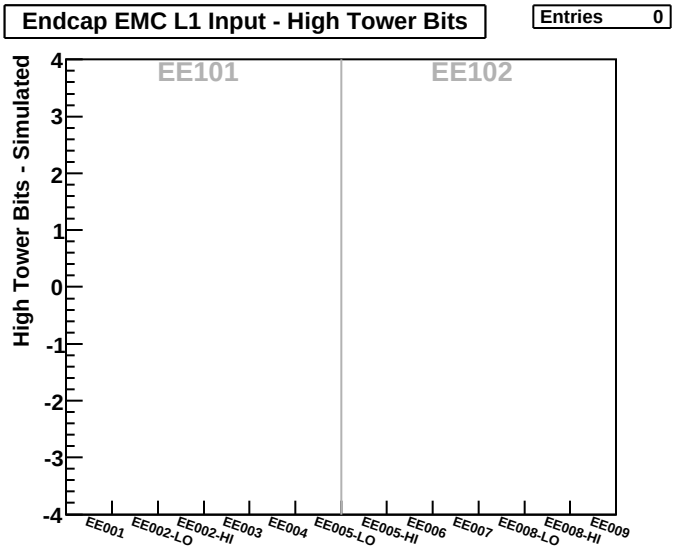

Endcap EMC L1 Input - Low Eta Sum
Entries 4934832
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

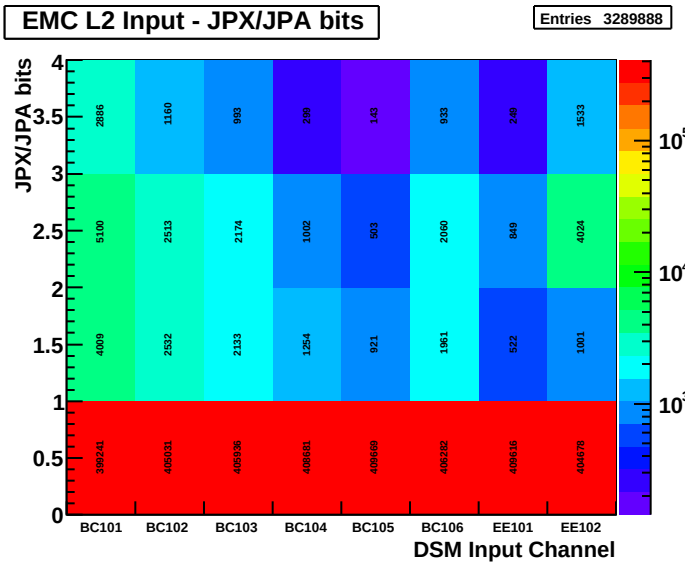

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

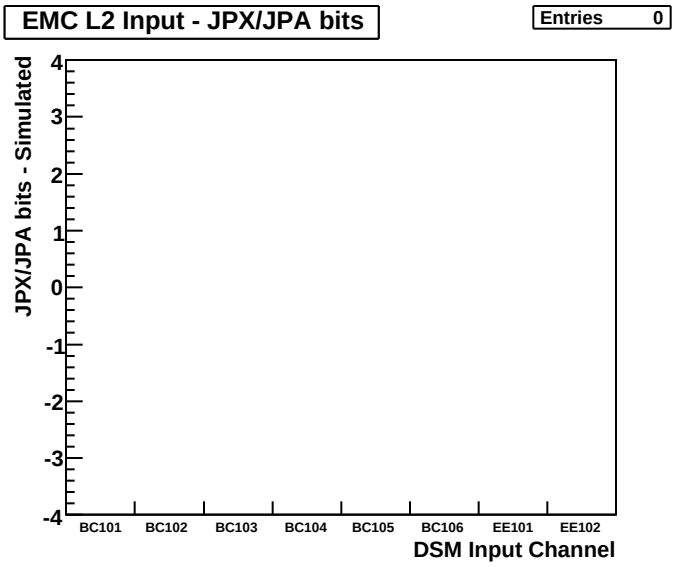

Endcap EMC L1 Input - High Eta Sum
Entries 4934832
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

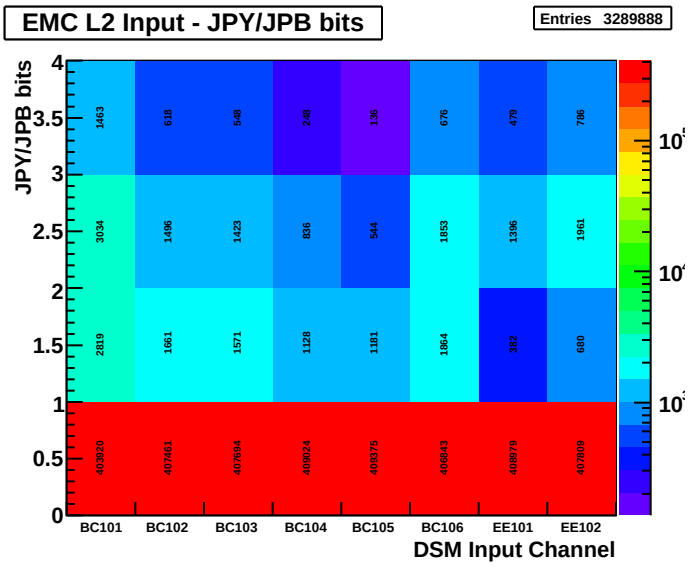

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

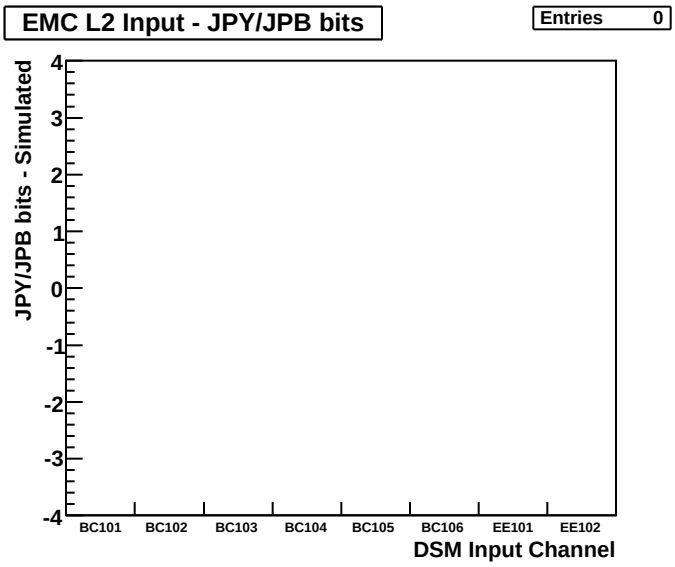

Endcap EMC L1 Input - High Tower Bits
Entries 4934832
High Tower Bits
EE101
EE102
347 115 97 670 682 304 661 1895 947 188 220 414
258 75 65 617 566 168 436 1510 829 129 130 378
410631 411046 411074 409949 409988 410764 410139 407841 409460 410919 410886 410444
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

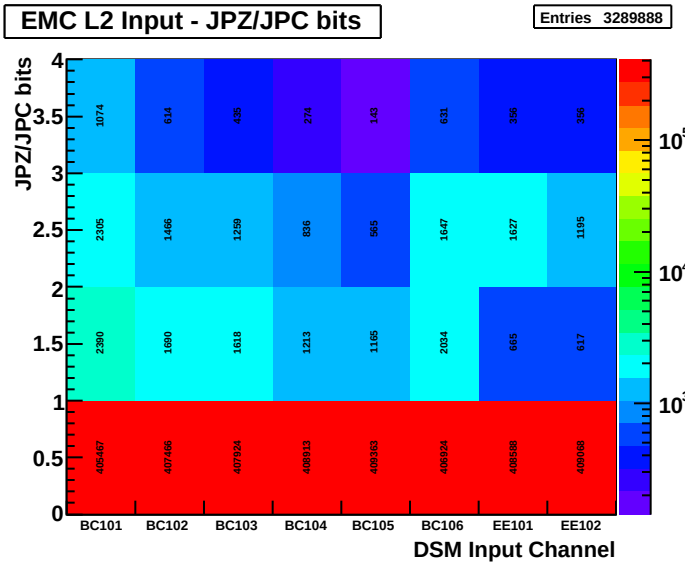

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

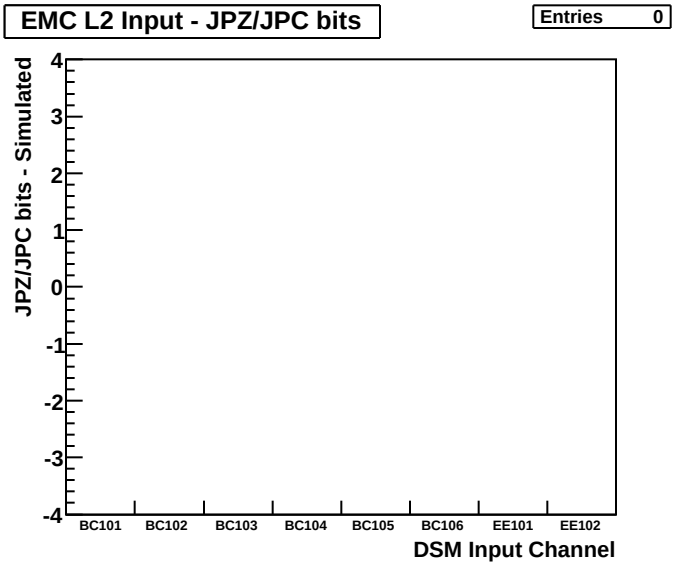

EMC L2 Input - JPX/JPA bits
Entries 3289888
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
2886 1160 993 299 143 933 249 1533
5100 2513 2174 1002 903 2060 849 4024
4009 2532 2133 1254 921 1961 522 1001
399241 405031 405936 408601 409669 406282 409616 404678

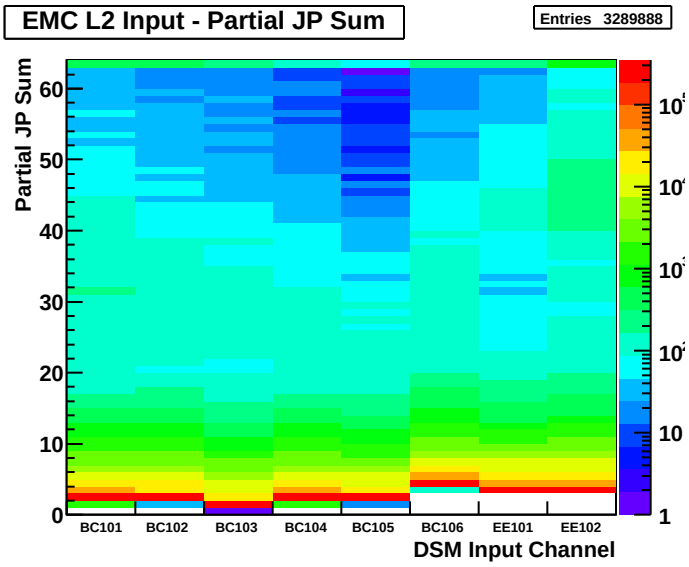

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

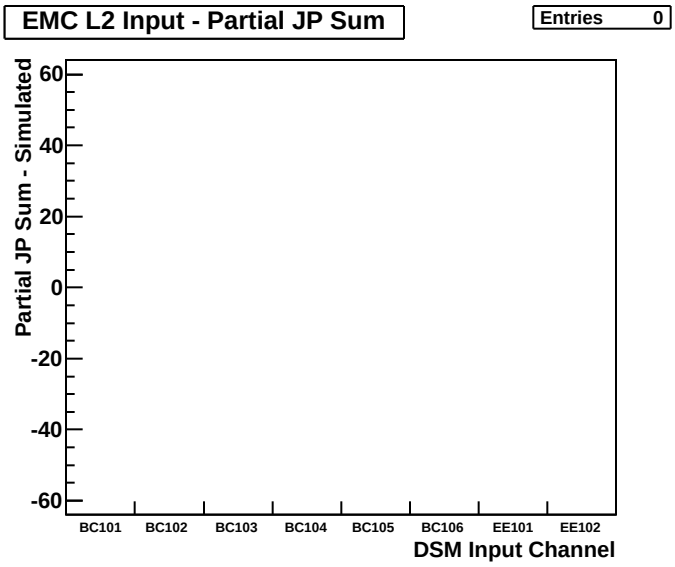

EMC L2 Input - JPY/JPB bits
Entries 3289888
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
1463 618 548 248 136 676 479 786
3034 1496 1423 836 544 1853 1396 1961
2819 1661 1571 1128 1181 1864 382 680
403820 407461 407694 409024 409375 408843 408979 407809

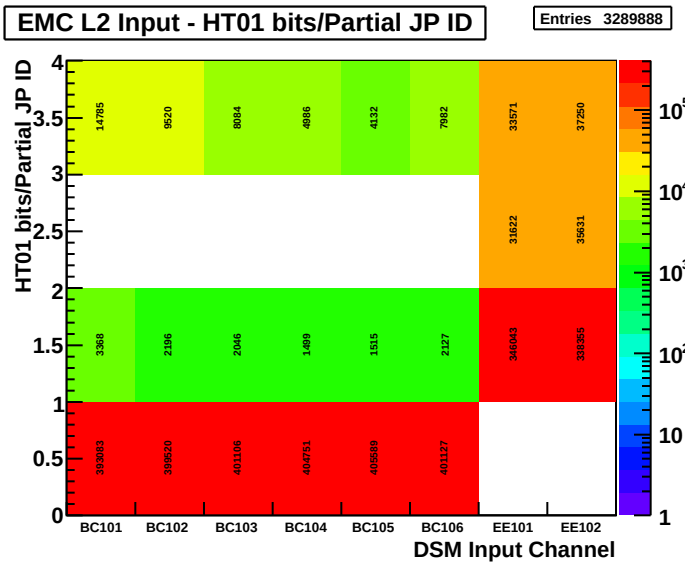

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

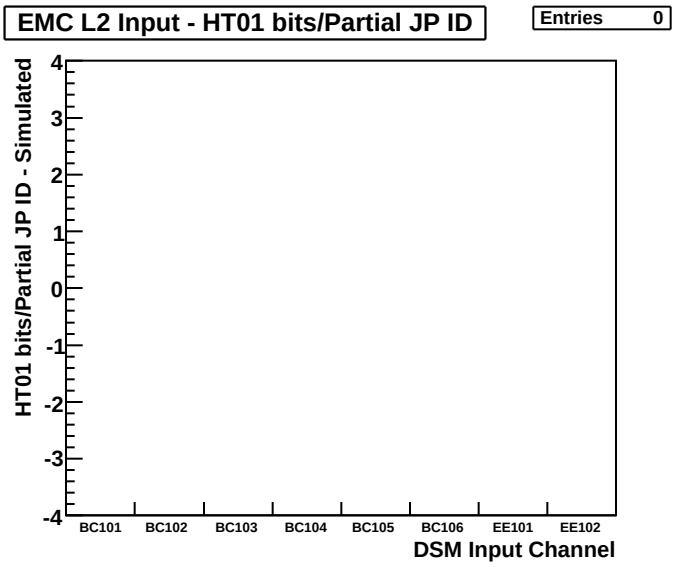

EMC L2 Input - JPZ/JPC bits
Entries 3289888
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
1074 614 435 274 143 631 356 356
2305 1466 1259 836 565 1647 1627 1195
2380 1680 1618 1213 1165 2034 665 617
405467 407466 407924 408913 409363 406924 408588 409068

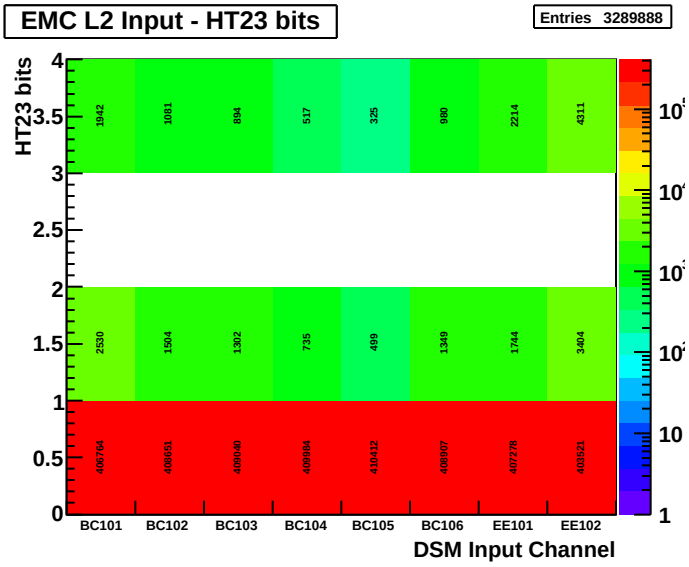

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

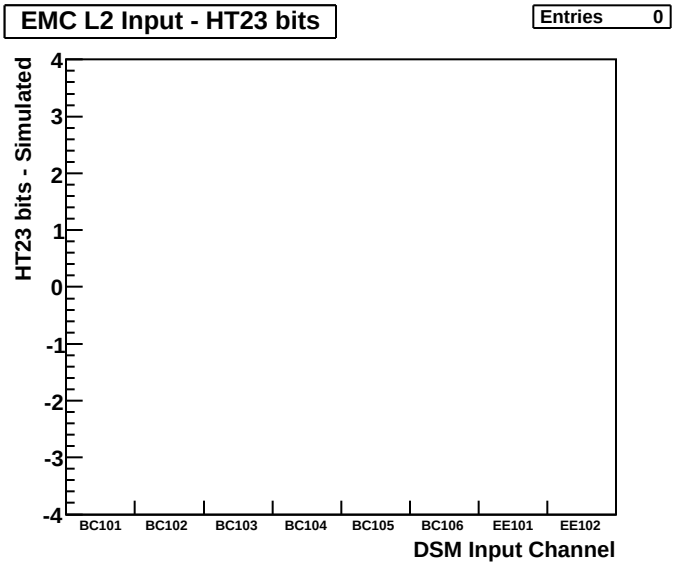

EMC L2 Input - Partial JP Sum
Entries 3289888
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

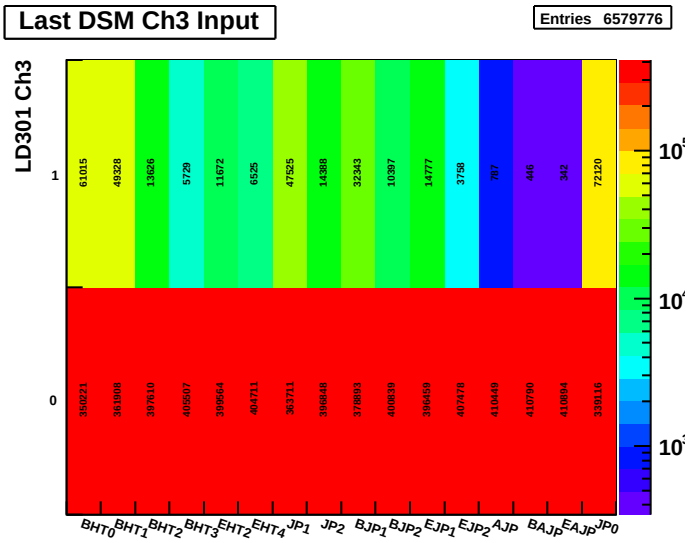

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

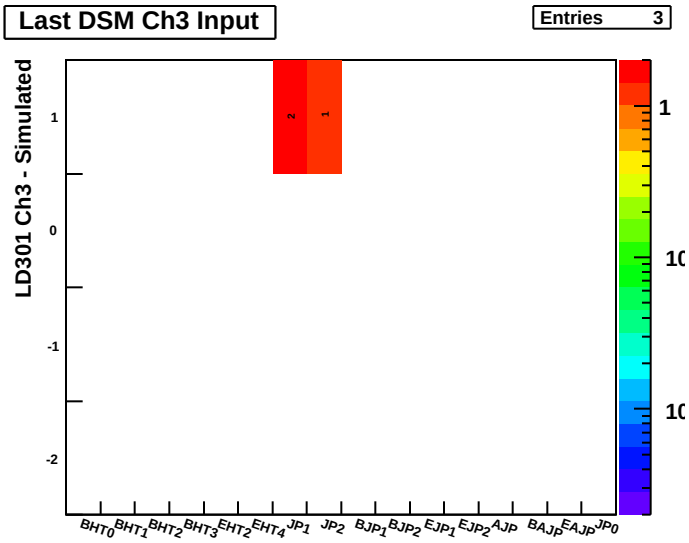

EMC L2 Input - HT01 bits/Partial JP ID
Entries 3289888
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

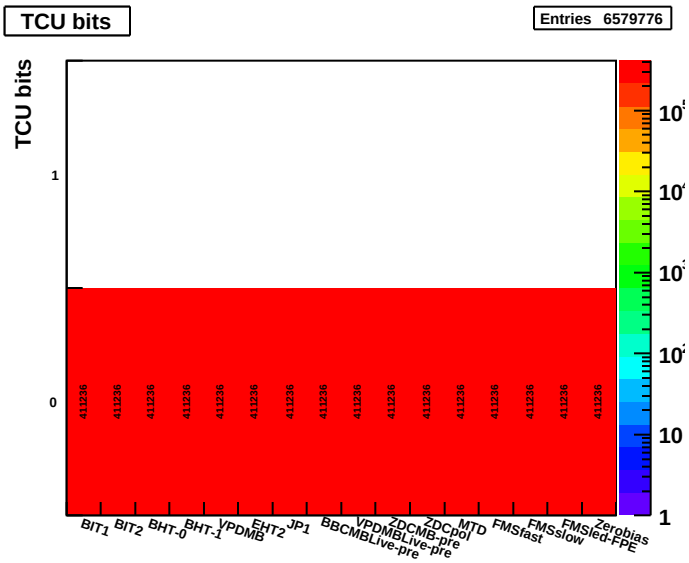

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

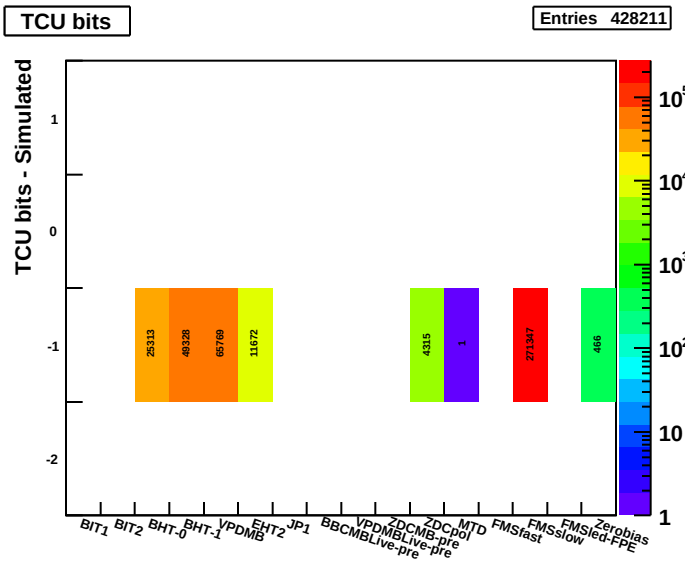

EMC L2 Input - HT23 bits
Entries 3289888
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

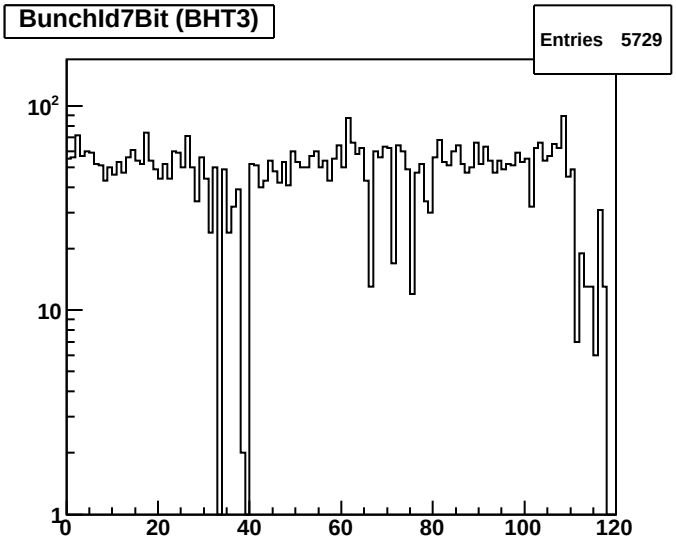

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

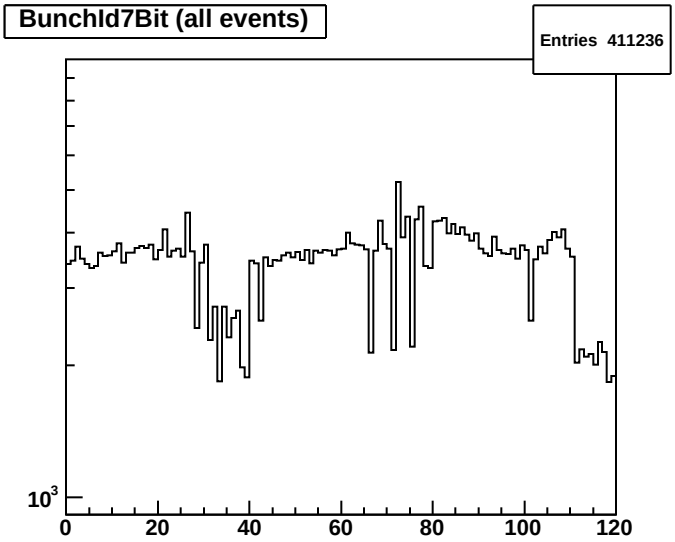

Last DSM Ch3 Input
Entries 6579776
LD301 Ch3
1
0
61015 49328 13626 5729 11672 6525 47525 14388 32343 10397 14777 3758 767 446 342 72120
350221 361908 397610 405507 399564 404711 383711 396848 378893 408839 396459 407478 410449 410790 410894 339116
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP EAJP JP0

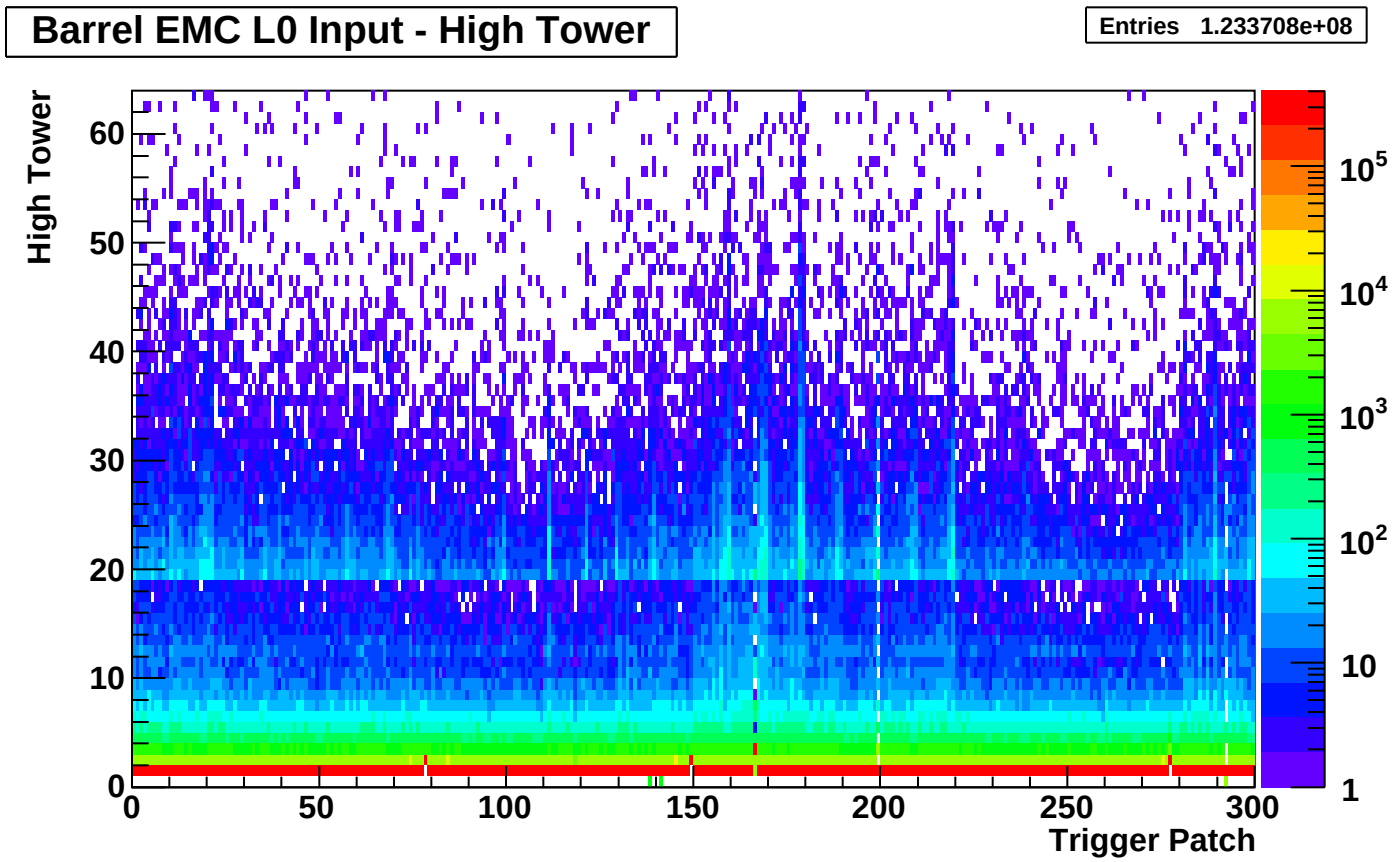

Last DSM Ch3 Input
Entries 3
LD301 Ch3 - Simulated
1
0
-1
-2
2 1
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP EAJP JP0

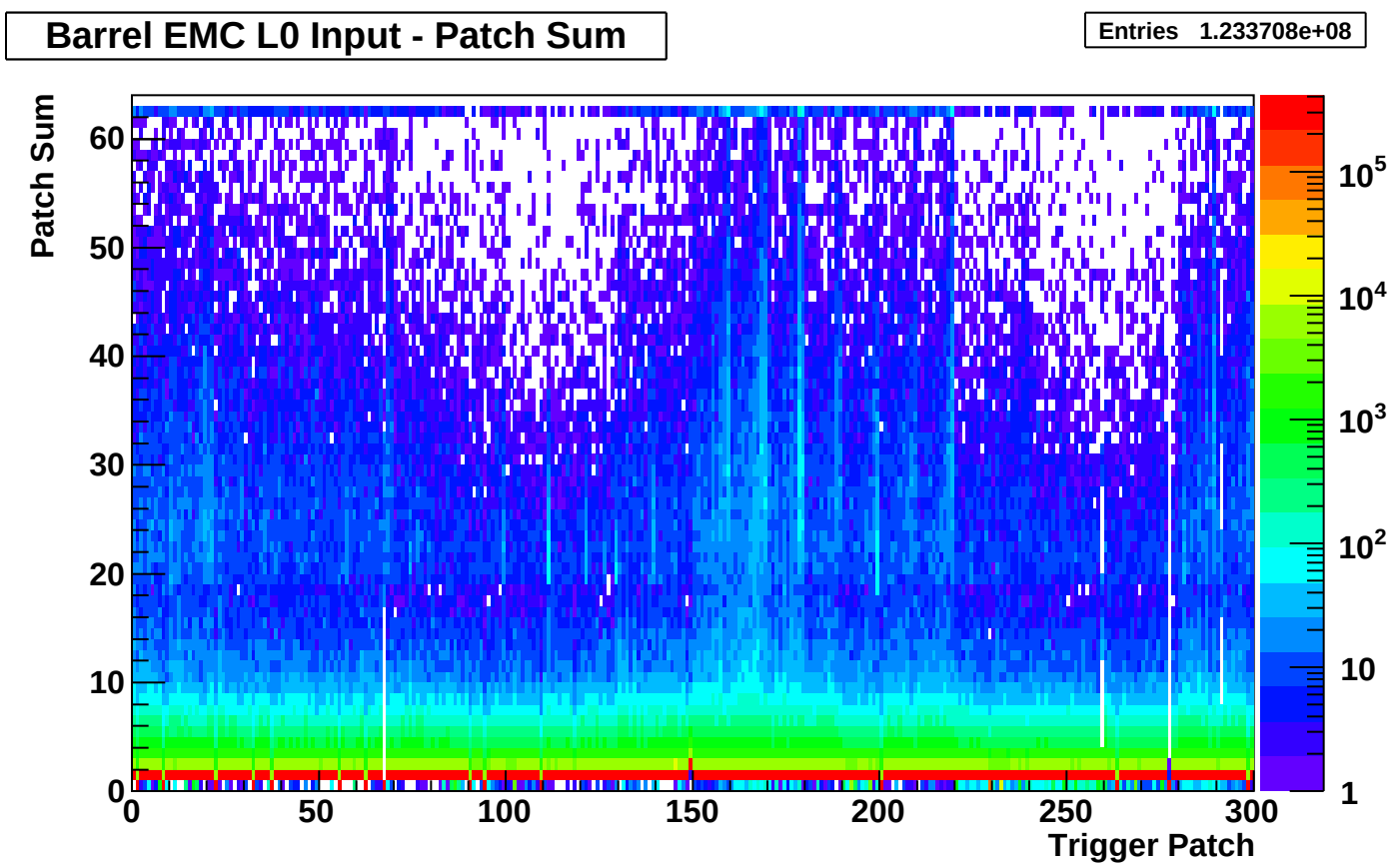

TCU bits
Entries 6579776
TCU bits
1
0
411236 411236 411236 411236 411236 411236 411236 411236 411236 411236 411236 411236 411236 411236 411236 411236
BIT1 BIT2 BHT-0 BHT-1 VPDMB EHT2 JP1 BBCMBLive-pre VPDMBLive-pre ZDCMB-pre ZDCpol MTD FMSfast FMSslow FMSled-FPE Zerobias

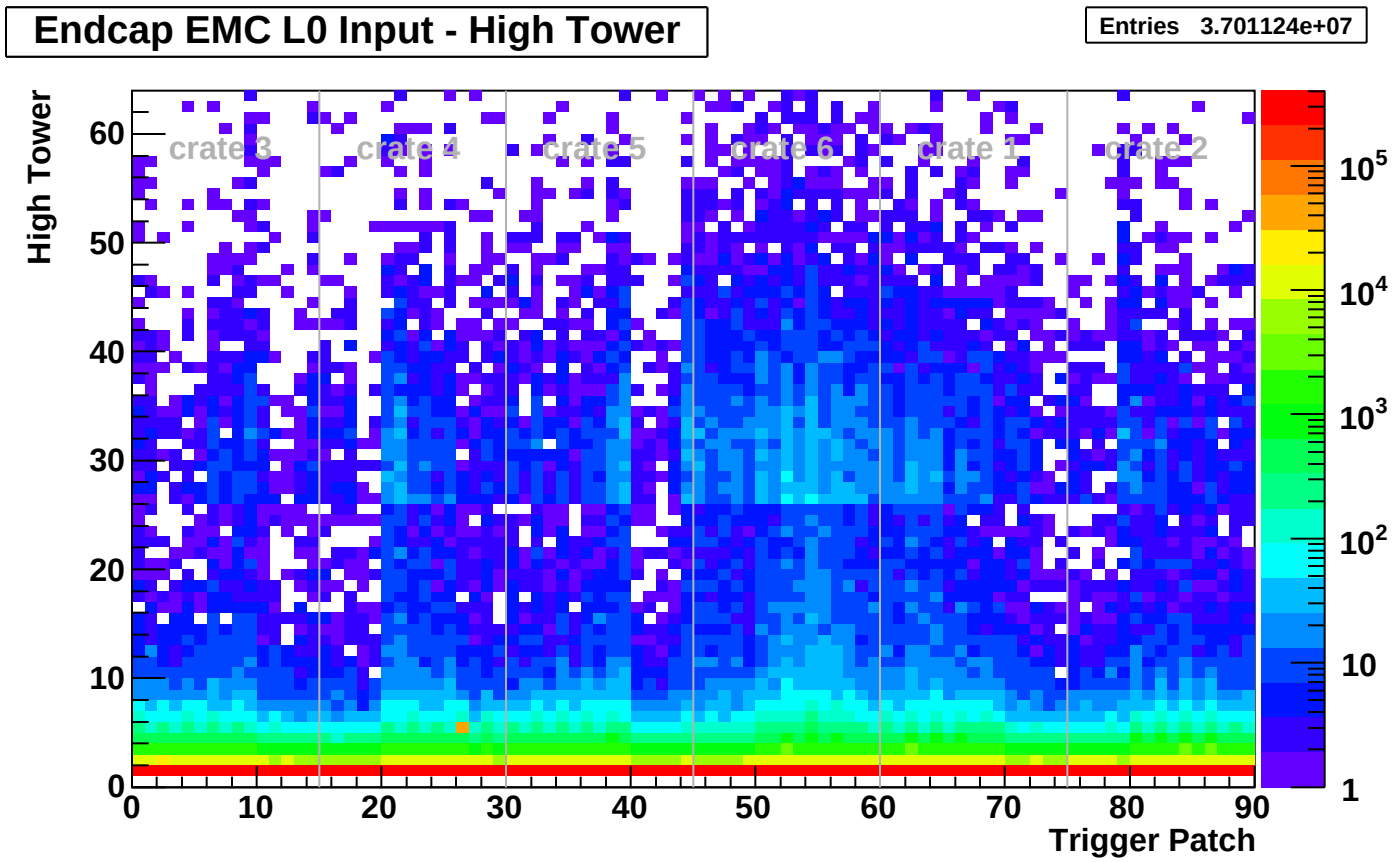

TCU bits
Entries 428211
TCU bits - Simulated
1
0
-1
-2
25313 49328 65769 11672 4315 1 271347 466
BIT1 BIT2 BHT-0 BHT-1 VPDMB EHT2 JP1 BBCMBLive-pre VPDMBLive-pre ZDCMB-pre ZDCpol MTD FMSfast FMSslow FMSled-FPE Zerobias

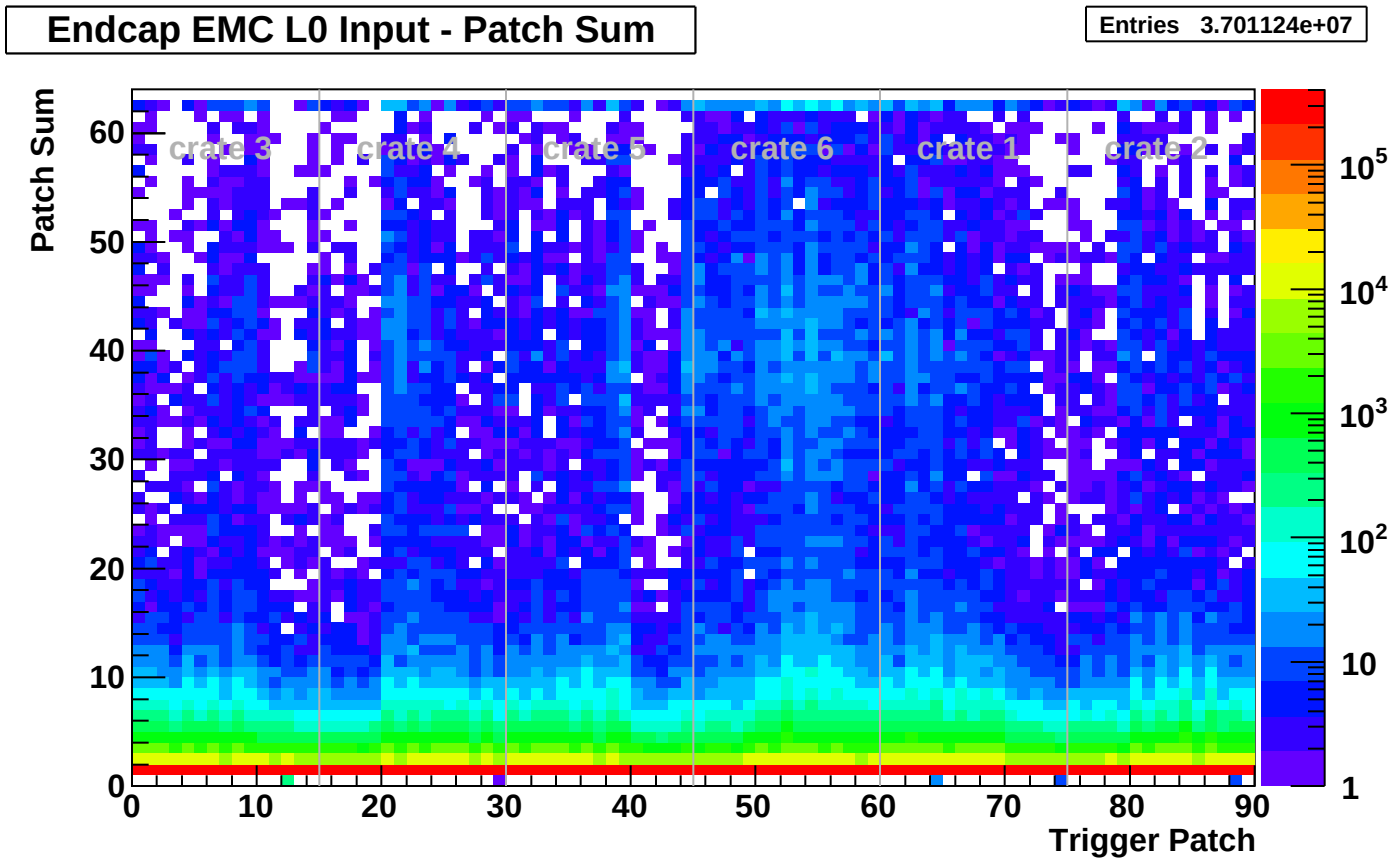

BunchId7Bit (BHT3)
Entries 5729
10²
10
1
0 20 40 60 80 100 120

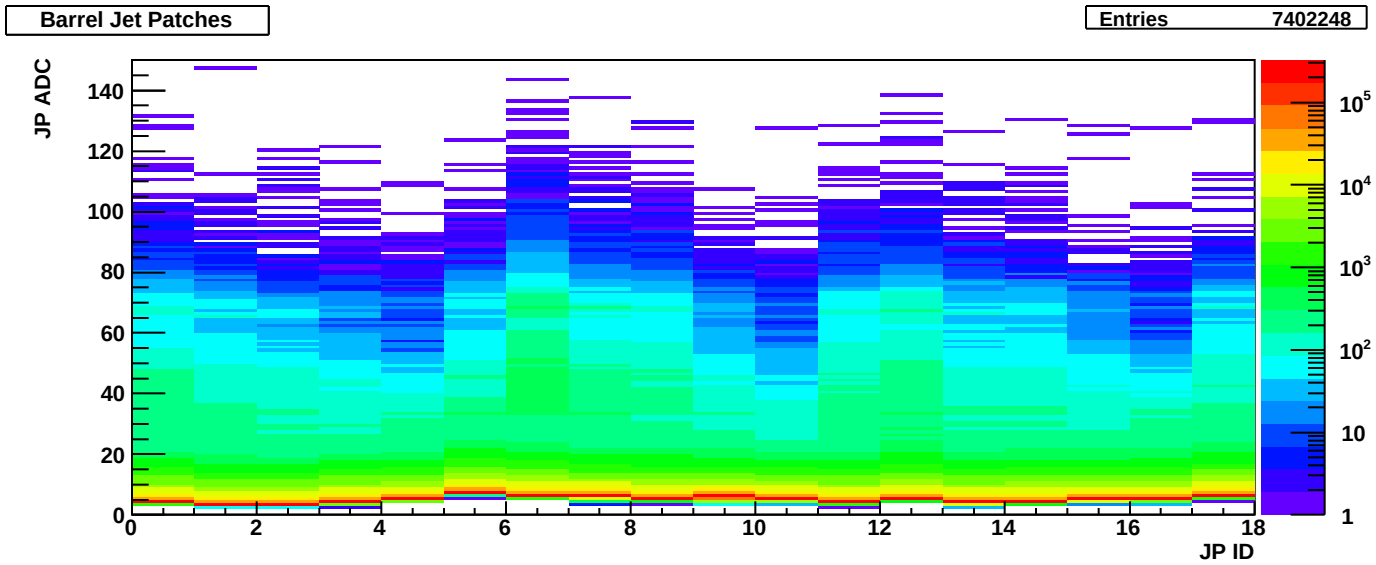

BunchId7Bit (all events)
Entries 411236
10³
0 20 40 60 80 100 120

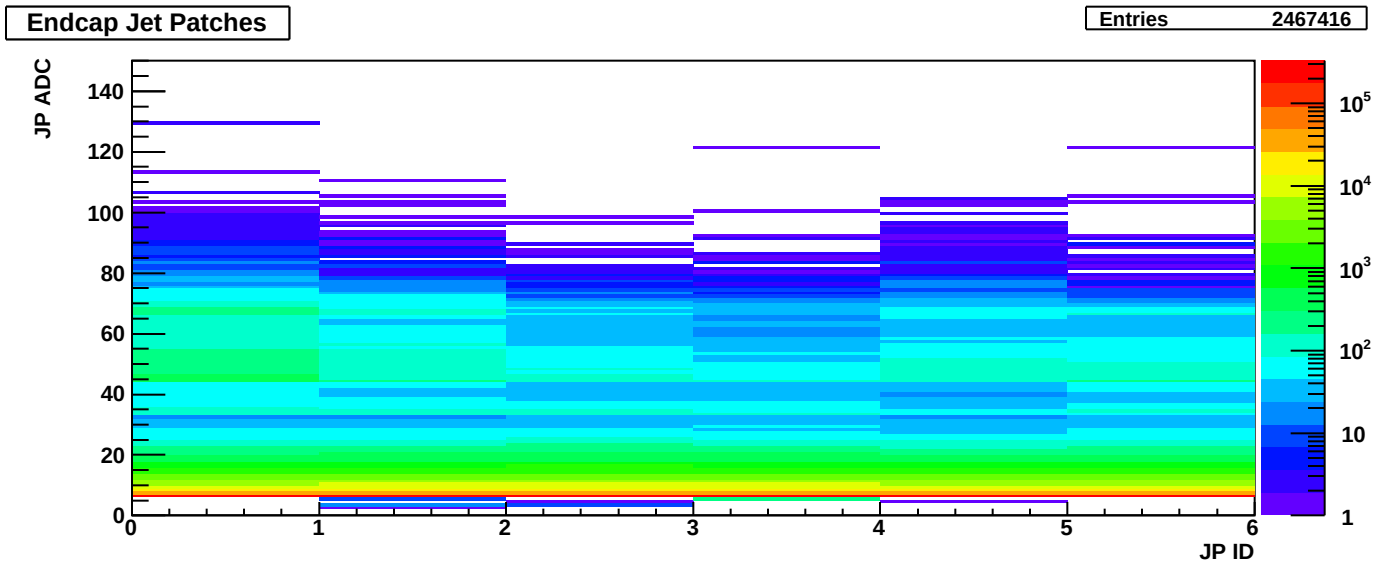

Barrel EMC L0 Input - High Tower
Entries 1.233708e+08
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$
$10^4$
$10^5$

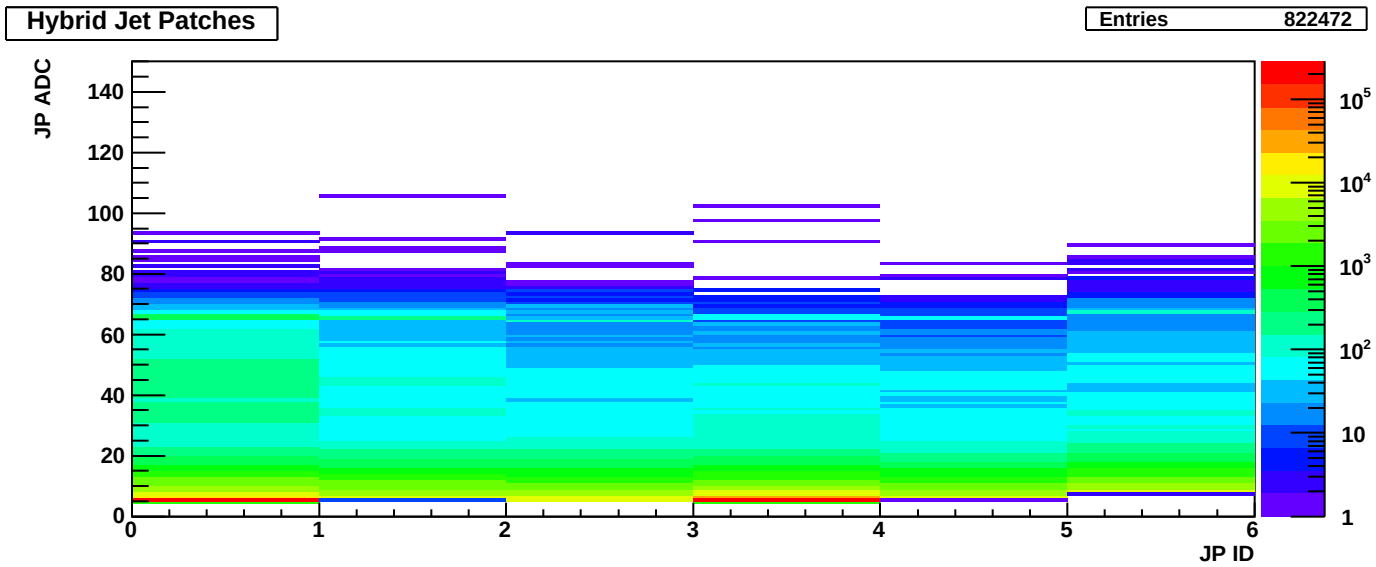

Barrel EMC L0 Input - Patch Sum
Entries 1.233708e+08
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$
$10^4$
$10^5$

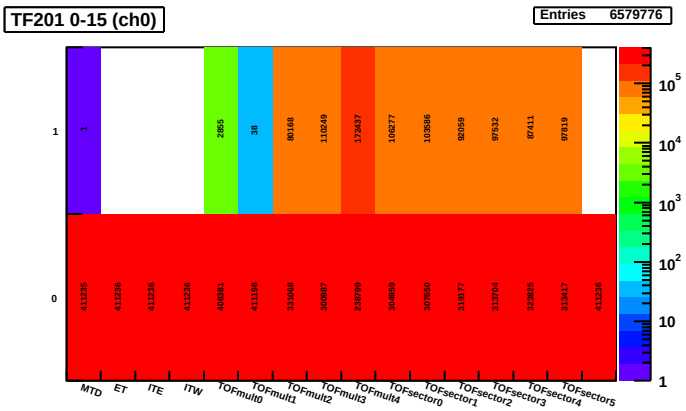

Endcap EMC L0 Input - High Tower
Entries 3.701124e+07
High Tower
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

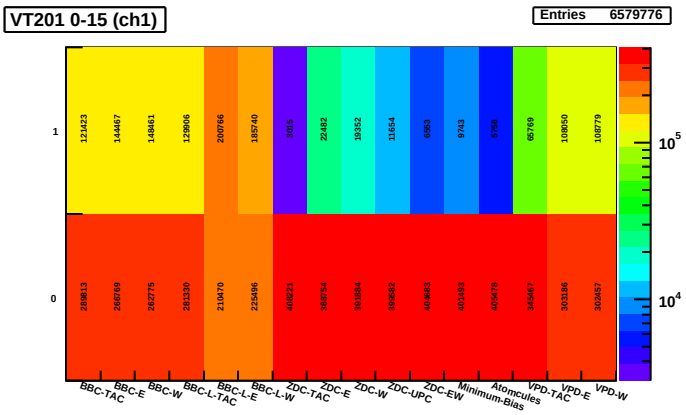

Endcap EMC L0 Input - Patch Sum
Entries 3.701124e+07
Patch Sum
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

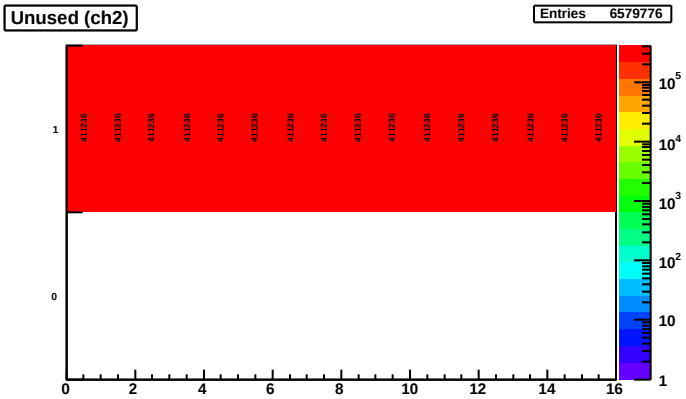

Barrel Jet Patches
Entries 7402248
JP ADC
JP ID

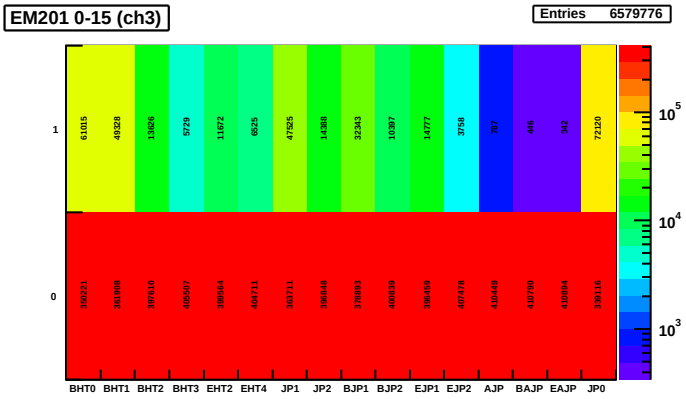

Endcap Jet Patches
Entries 2467416
JP ADC
JP ID

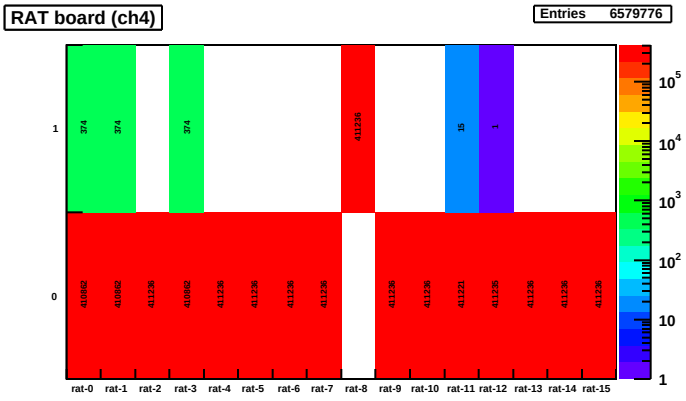

Hybrid Jet Patches
Entries 822472
JP ADC
JP ID

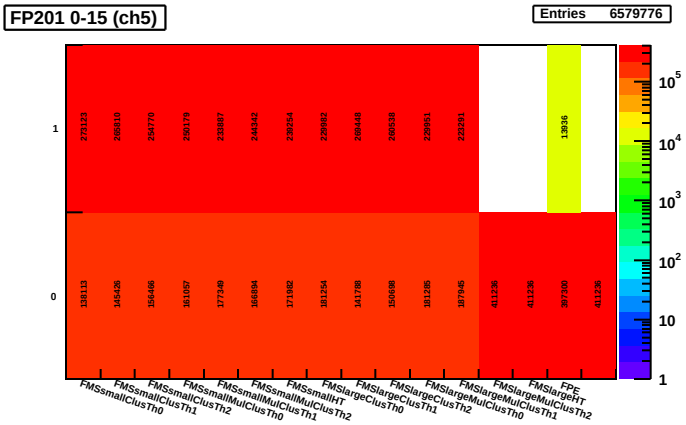

TF201 0-15 (ch0)
Entries 6579776
MTD ET ITE ITW TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5

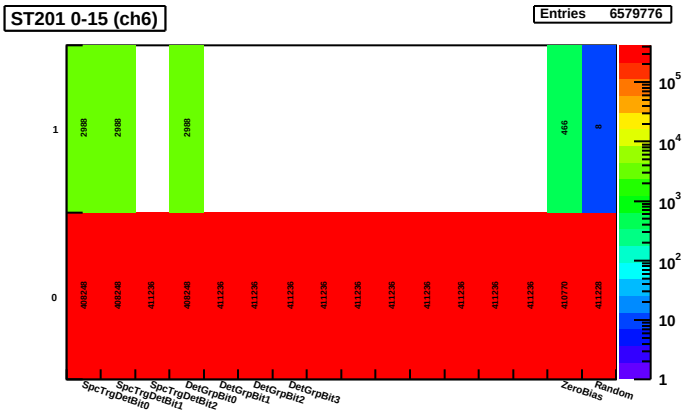

VT201 0-15 (ch1)
Entries 6579776
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-UPC ZDC-EW Minimum-Bias Atomcules VPD-TAC VPD-E VPD-W

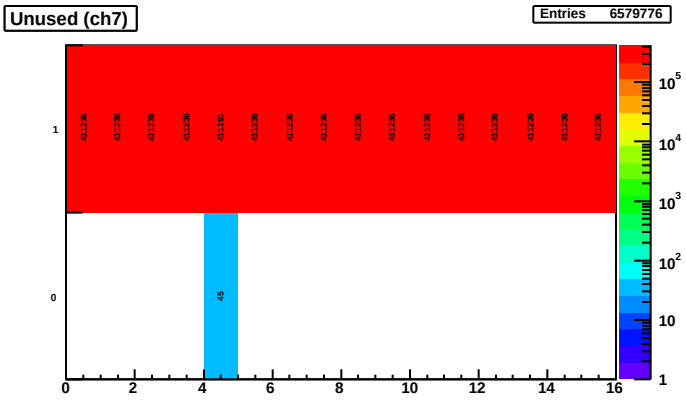

Unused (ch2)
Entries 6579776

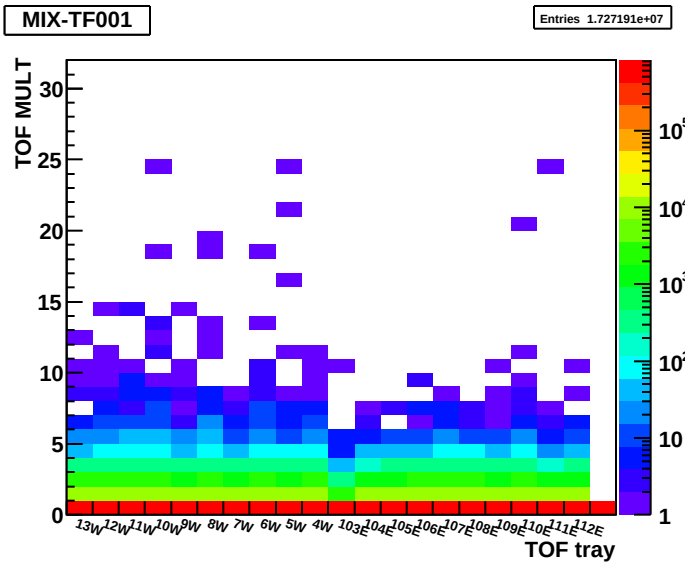

EM201 0-15 (ch3)
Entries 6579776
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP EAJP JP0

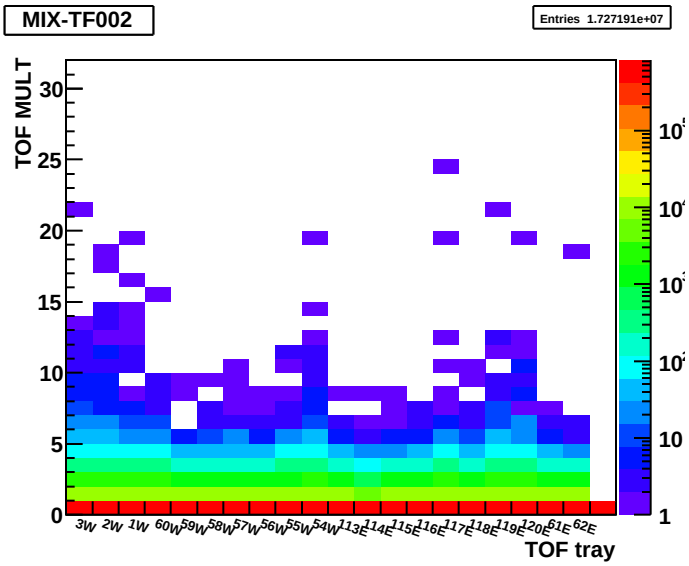

RAT board (ch4)
Entries 6579776
rat-0 rat-1 rat-2 rat-3 rat-4 rat-5 rat-6 rat-7 rat-8 rat-9 rat-10 rat-11 rat-12 rat-13 rat-14 rat-15

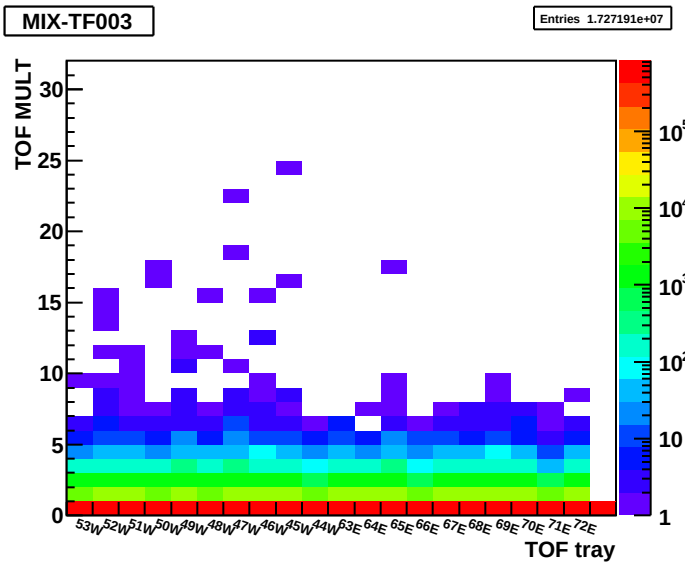

FP201 0-15 (ch5)
Entries 6579776
FMSsmallClusTh0 FMSsmallClusTh1 FMSsmallClusTh2 FMSsmallMulClusTh0 FMSsmallMulClusTh1 FMSsmallMulClusTh2 FMSsmallHT FMSlargeClusTh0 FMSlargeClusTh1 FMSlargeClusTh2 FMSlargeMulClusTh0 FMSlargeMulClusTh1 FMSlargeMulClusTh2 FMSlargeHT FPE

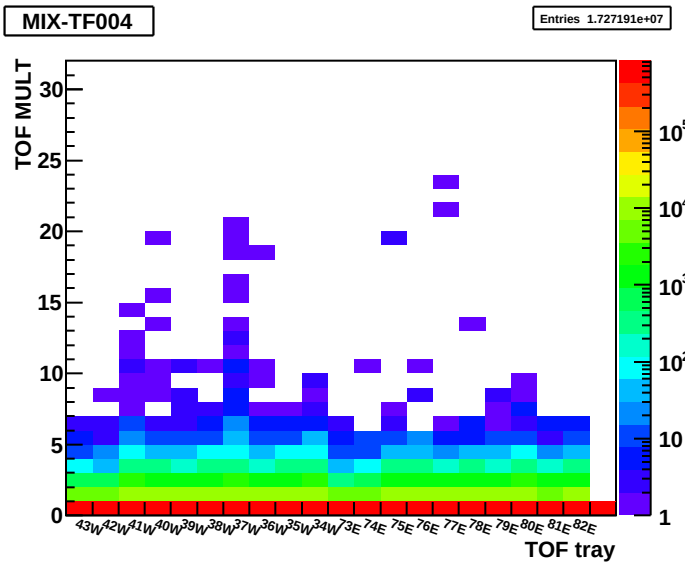

ST201 0-15 (ch6)
Entries 6579776
SpcTrgDetBit0 SpcTrgDetBit1 SpcTrgDetBit2 DetGrpBit0 DetGrpBit1 DetGrpBit2 DetGrpBit3 ZeroBias Random

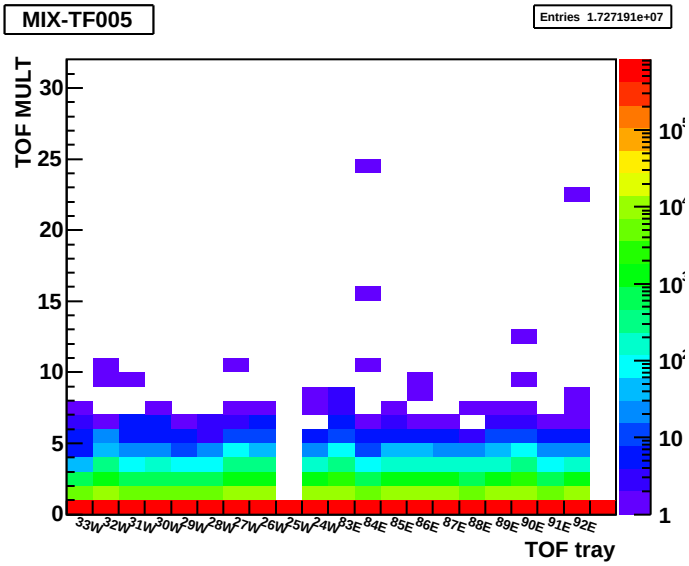

Unused (ch7)
Entries 6579776

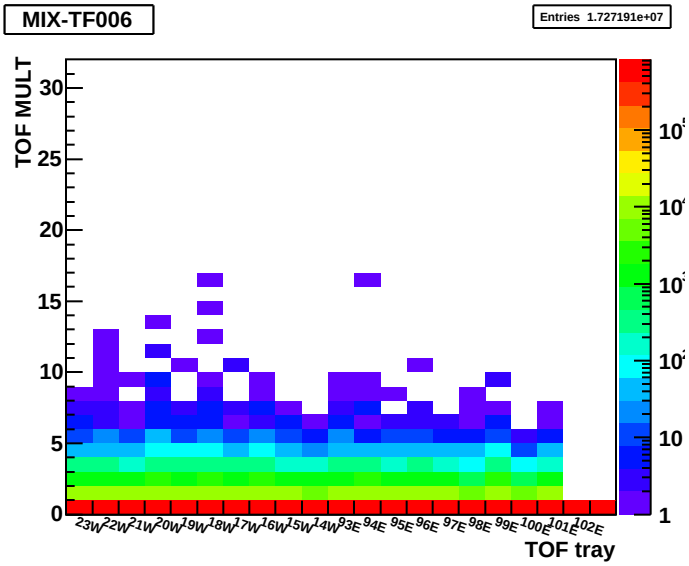

MIX-TF001
Entries 1.727191e+07
TOF MULT
TOF tray

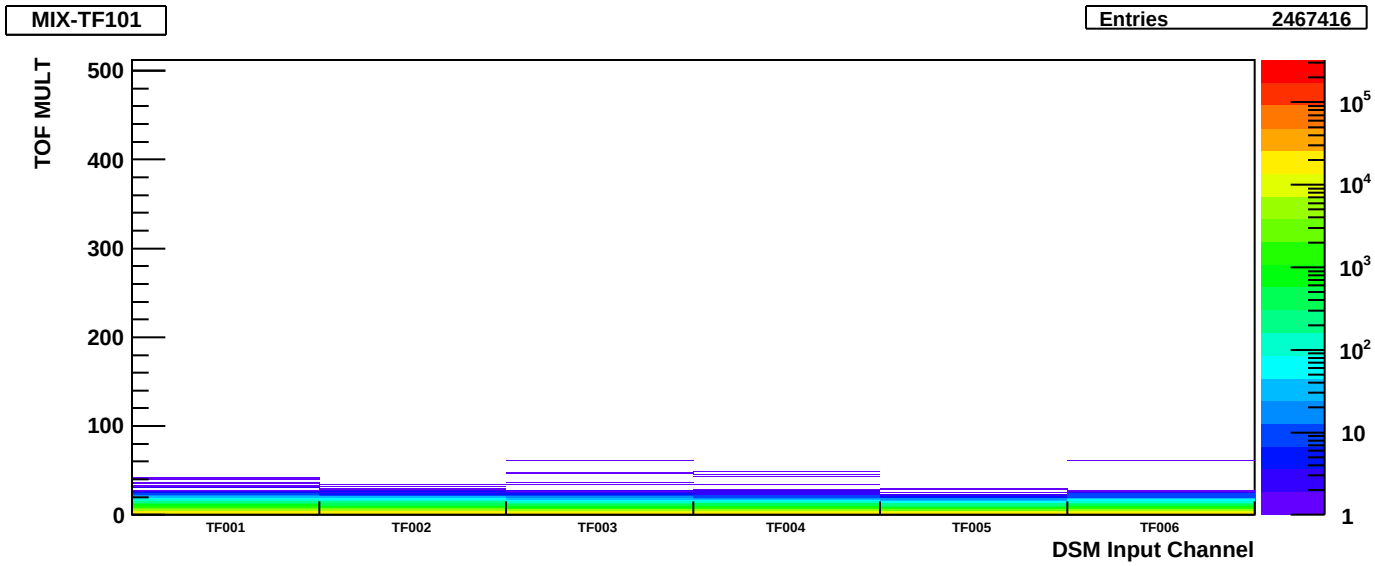

MIX-TF002
Entries 1.727191e+07
TOF MULT
TOF tray

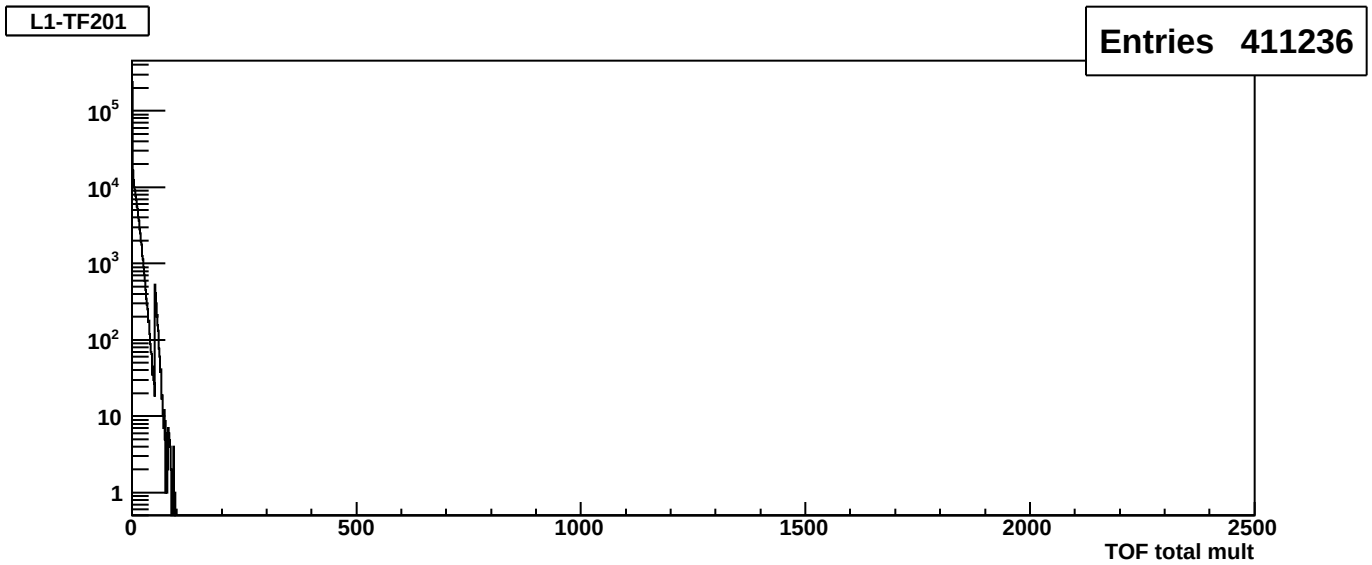

MIX-TF003
Entries 1.727191e+07
TOF MULT
TOF tray

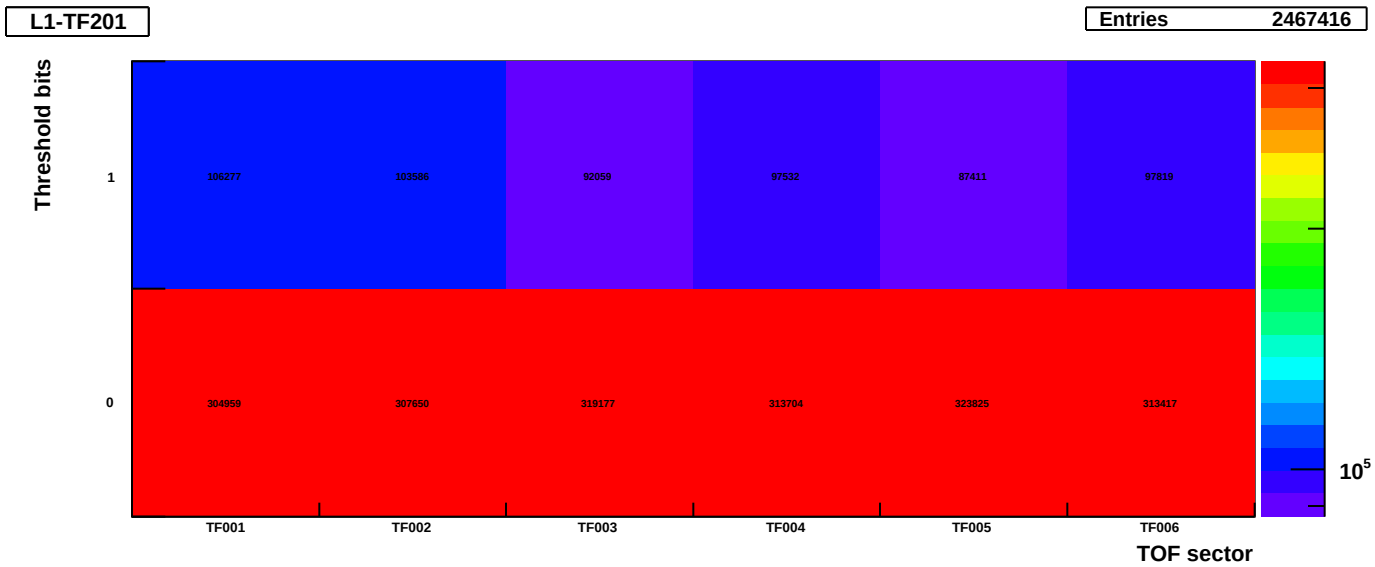

MIX-TF004
Entries 1.727191e+07
TOF MULT
TOF tray

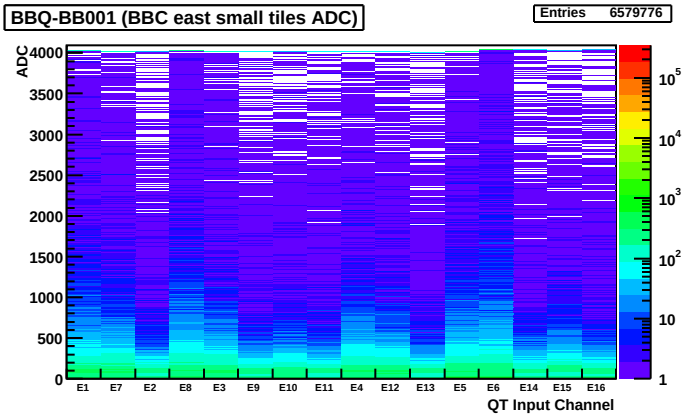

MIX-TF005
Entries 1.727191e+07
TOF MULT
TOF tray

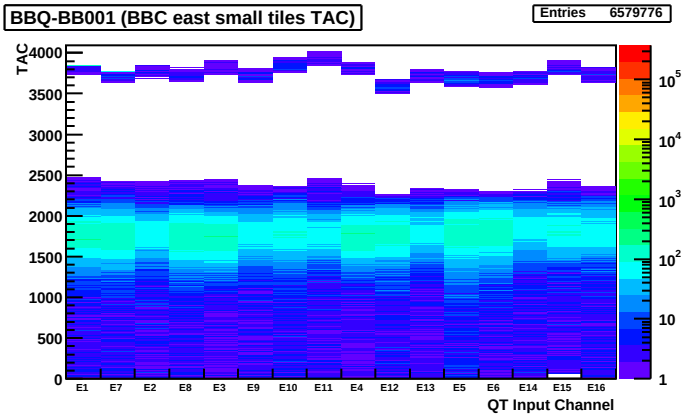

MIX-TF006
Entries 1.727191e+07
TOF MULT
TOF tray

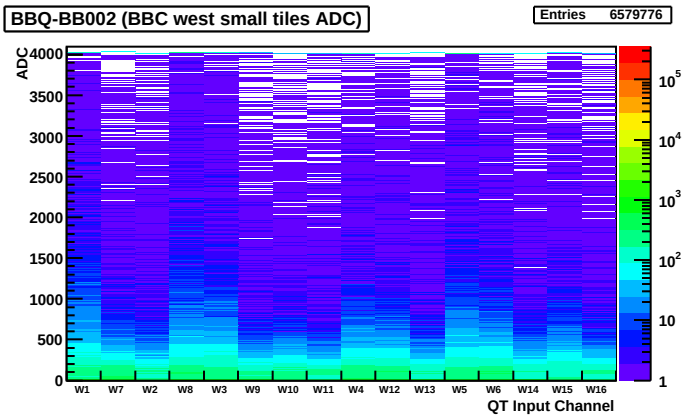

MIX-TF101
Entries 2467416
TOF MULT
500
400
300
200
100
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
$10^5$
$10^4$
$10^3$
$10^2$
10
1

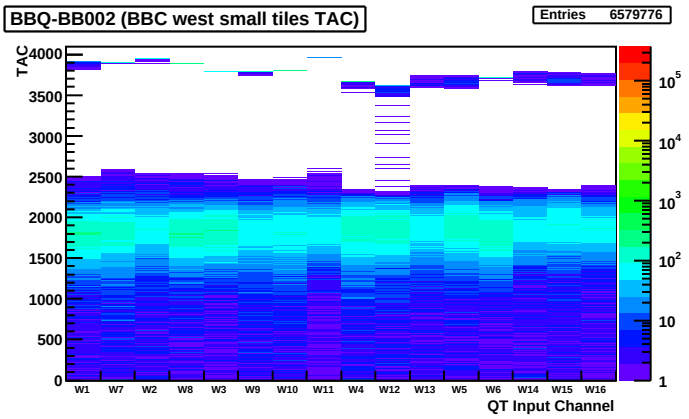

L1-TF201
Entries 411236
$10^5$
$10^4$
$10^3$
$10^2$
10
1
0
500
1000
1500
2000
2500
TOF total mult

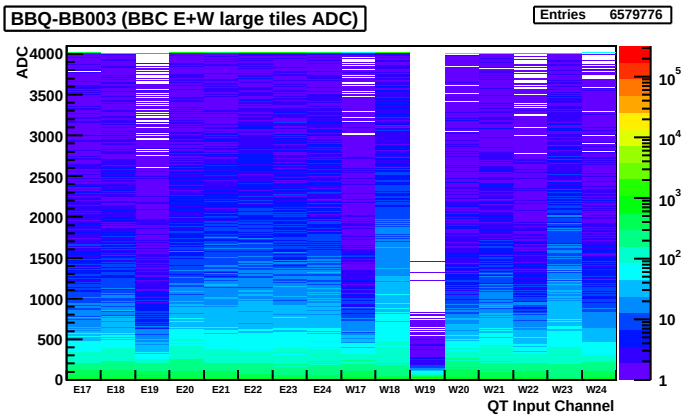

L1-TF201
Entries 2467416
Threshold bits
1
0
106277
103586
92059
97532
87411
97819
304959
307650
319177
313704
323825
313417
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
$10^5$

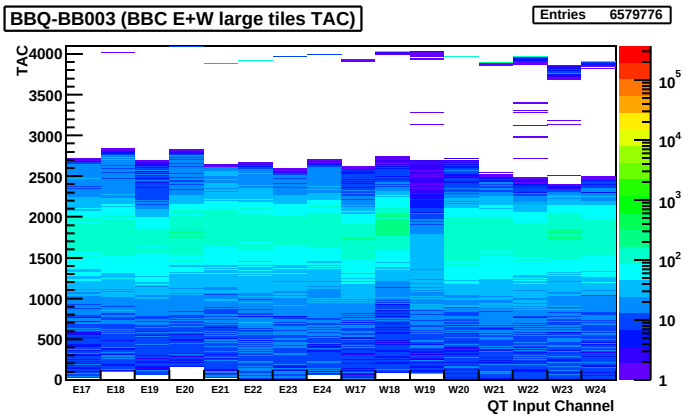

BBQ-BB001 (BBC east small tiles ADC)
Entries 6579776
ADC
QT Input Channel

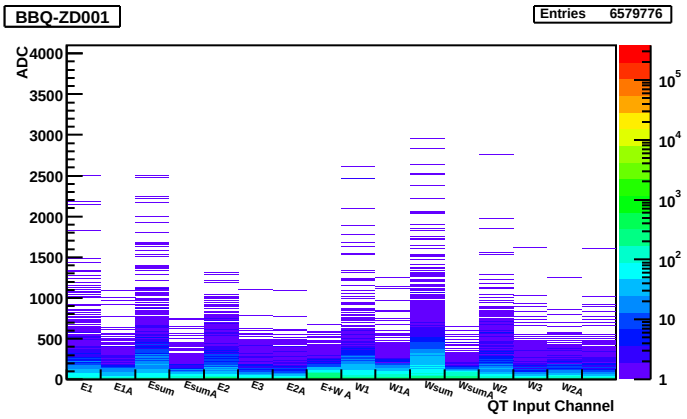

BBQ-BB001 (BBC east small tiles TAC)
Entries 6579776
TAC
QT Input Channel

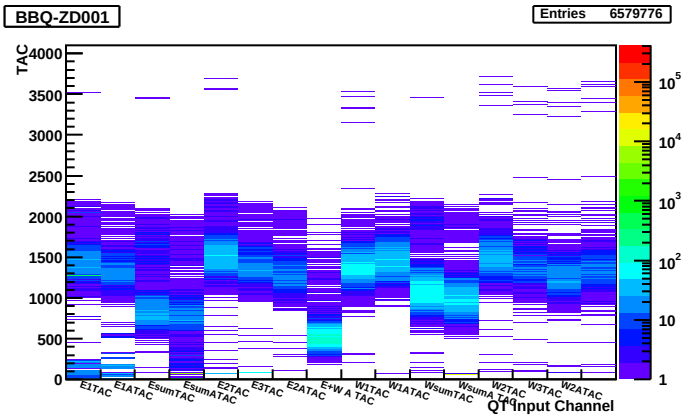

BBQ-BB002 (BBC west small tiles ADC)
Entries 6579776
ADC
QT Input Channel

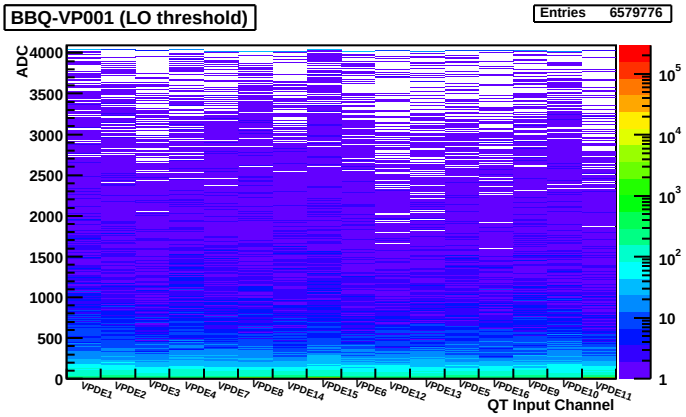

BBQ-BB002 (BBC west small tiles TAC)
Entries 6579776
TAC
QT Input Channel

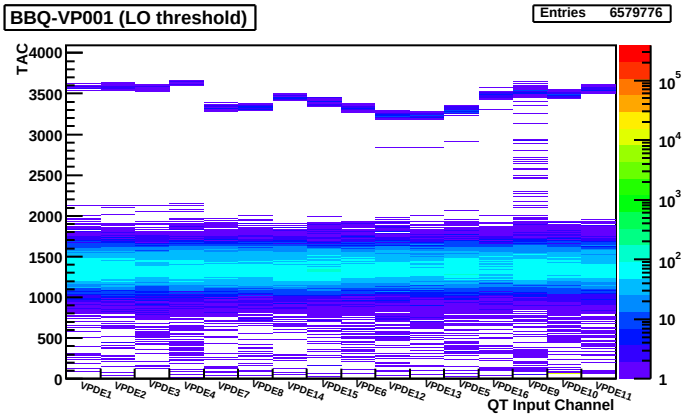

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 6579776
ADC
QT Input Channel

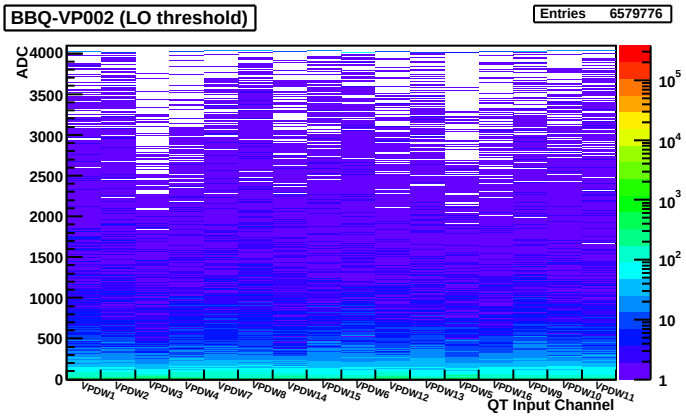

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 6579776
TAC
QT Input Channel

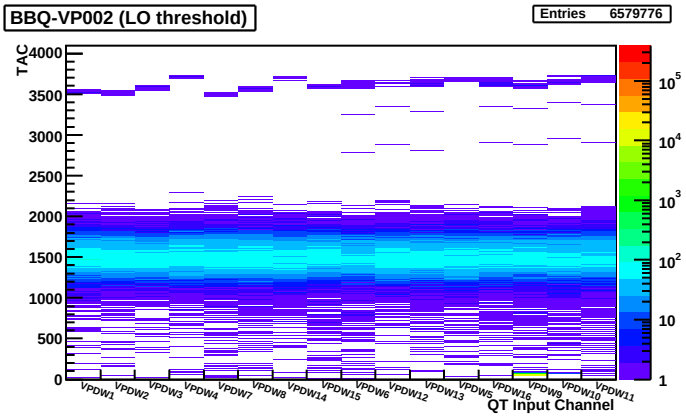

BBQ-ZD001
Entries 6579776
ADC
QT Input Channel

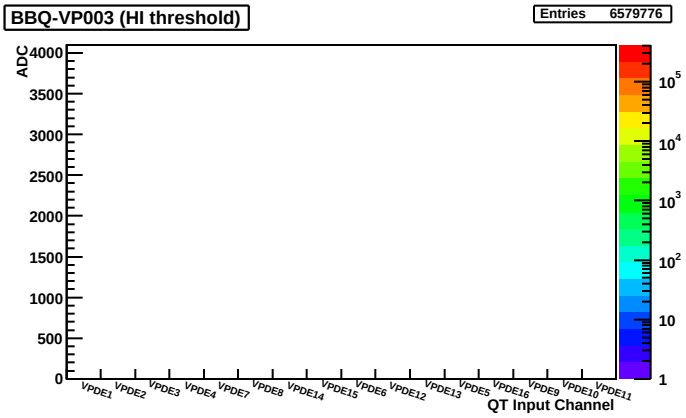

BBQ-ZD001
Entries 6579776
TAC
QT Input Channel

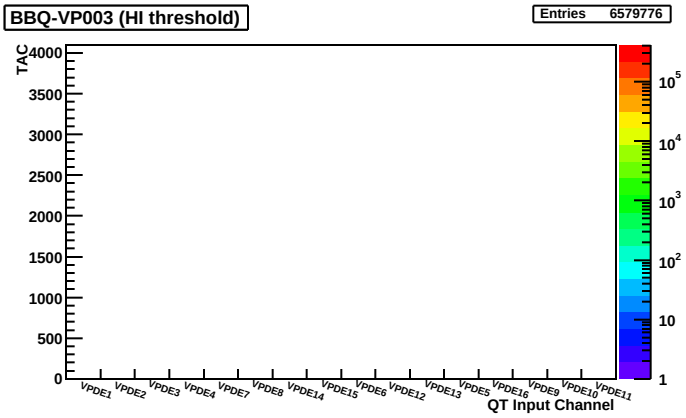

BBQ-VP001 (LO threshold)
Entries 6579776
ADC
QT Input Channel

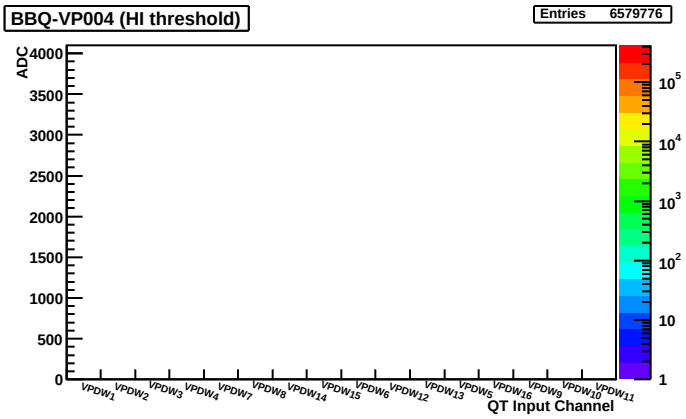

BBQ-VP001 (LO threshold)
Entries 6579776
TAC
QT Input Channel

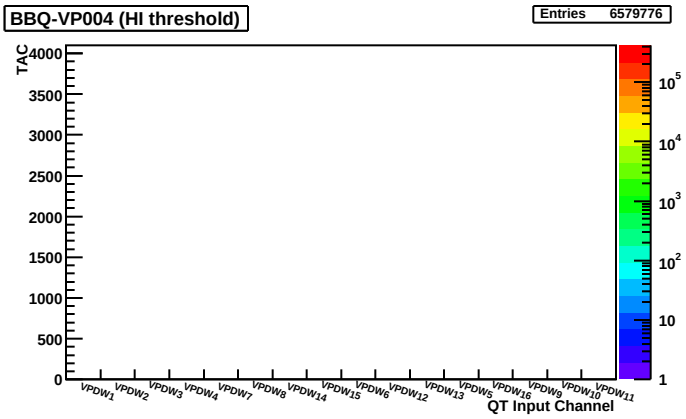

BBQ-VP002 (LO threshold)
Entries 6579776
ADC
QT Input Channel

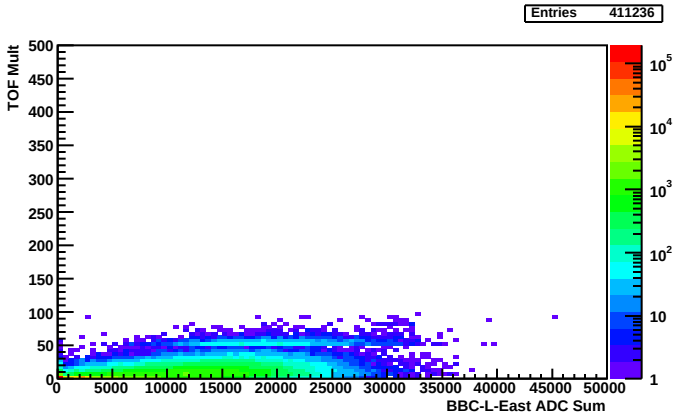

BBQ-VP002 (LO threshold)
Entries 6579776
TAC
QT Input Channel

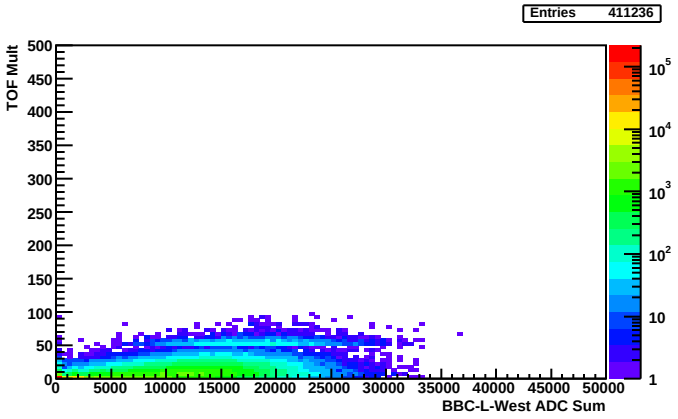

BBQ-VP003 (HI threshold)
Entries 6579776
ADC
QT Input Channel

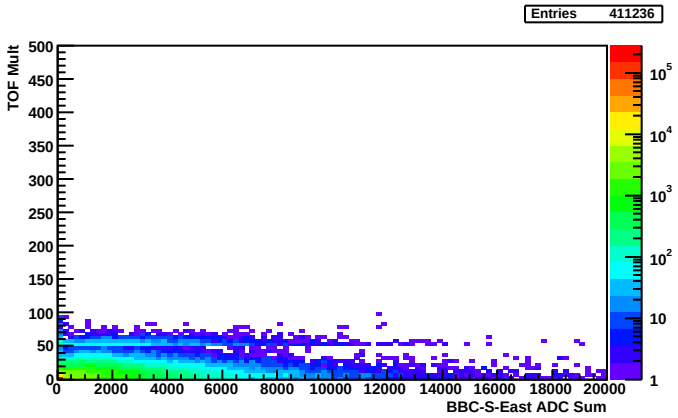

BBQ-VP003 (HI threshold)
Entries 6579776
TAC
QT Input Channel

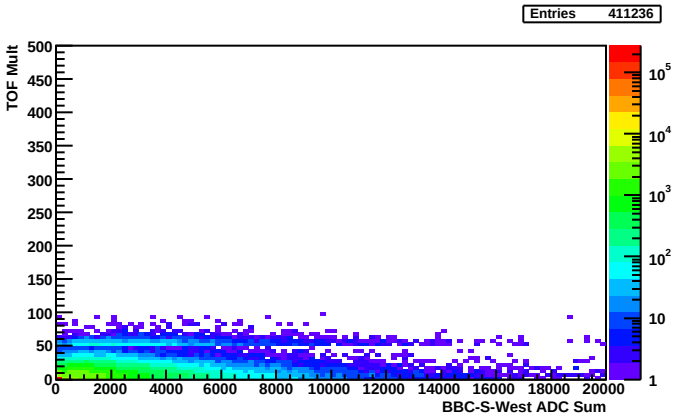

BBQ-VP004 (HI threshold)
Entries 6579776
ADC
QT Input Channel

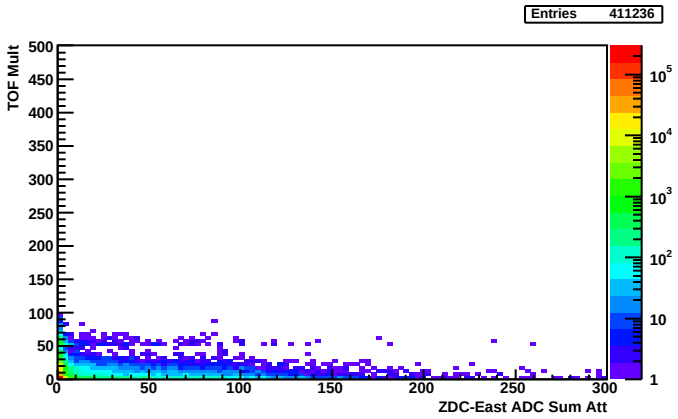

BBQ-VP004 (HI threshold)
Entries 6579776
TAC
QT Input Channel

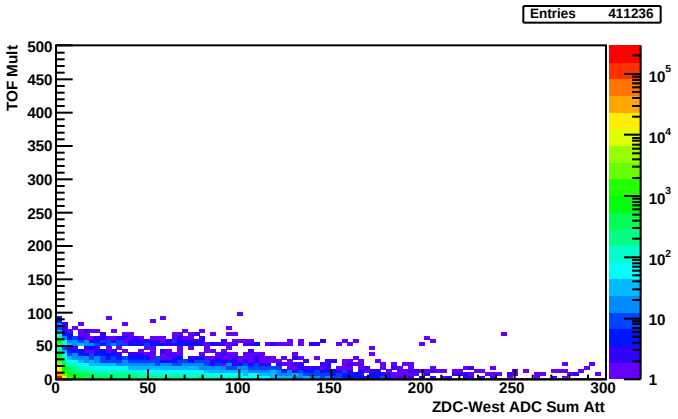

Entries 411236
TOF Mult
BBC-L-East ADC Sum

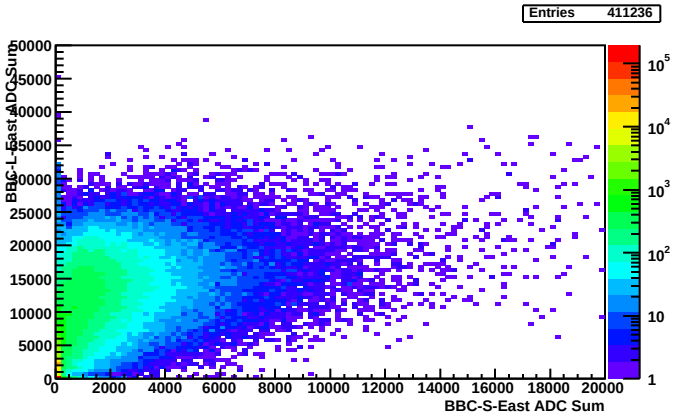

Entries 411236
TOF Mult
BBC-L-West ADC Sum

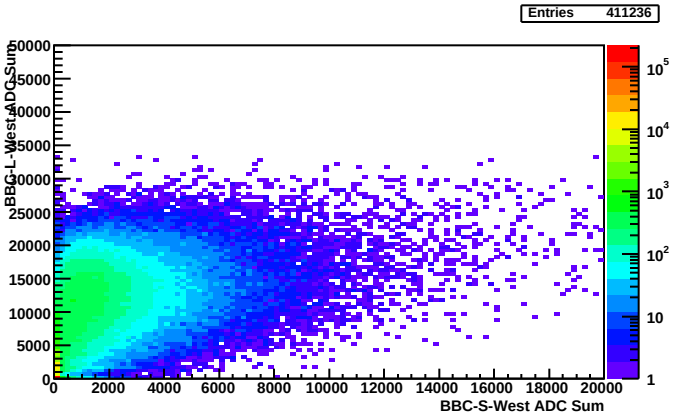

Entries 411236
TOF Mult
BBC-S-East ADC Sum

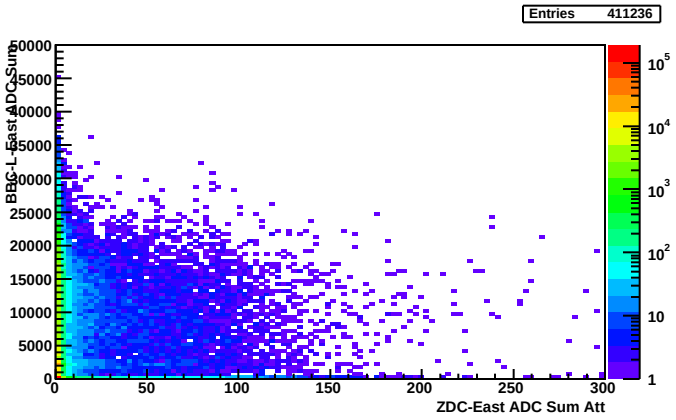

Entries 411236
TOF Mult
BBC-S-West ADC Sum

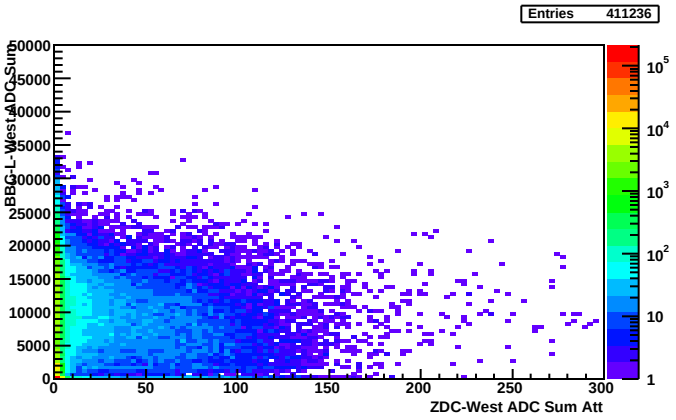

Entries 411236
TOF Mult
ZDC-East ADC Sum Att

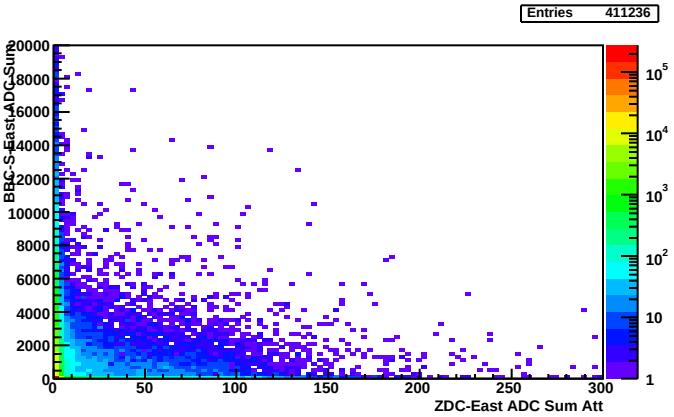

Entries 411236
TOF Mult
ZDC-West ADC Sum Att

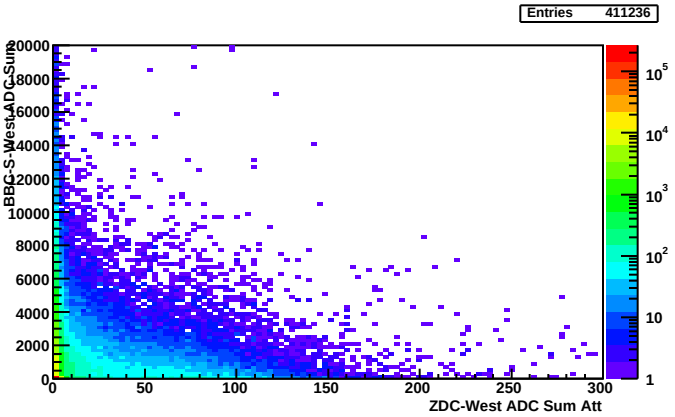

Entries 411236
BBC-L-East ADC Sum
BBC-S-East ADC Sum

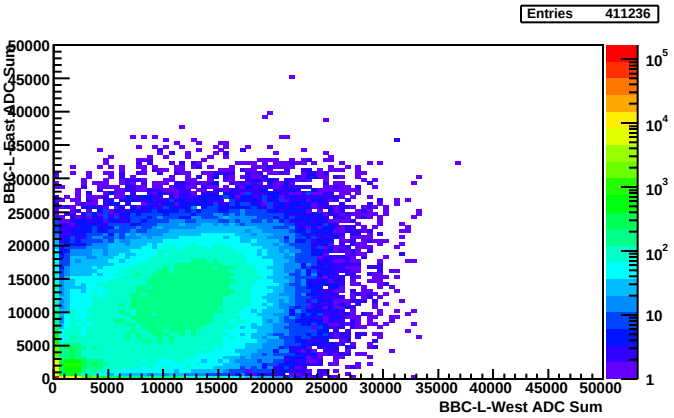

Entries 411236
BBC-L-West ADC Sum
BBC-S-West ADC Sum

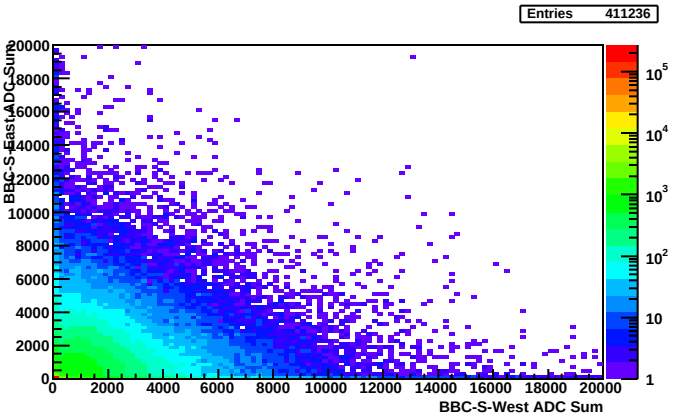

Entries 411236
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

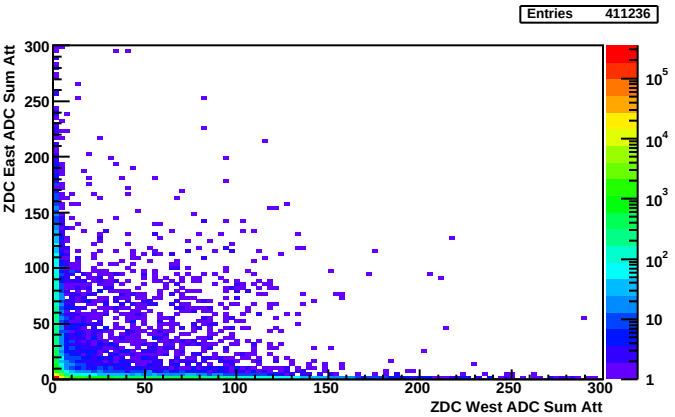

Entries 411236
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

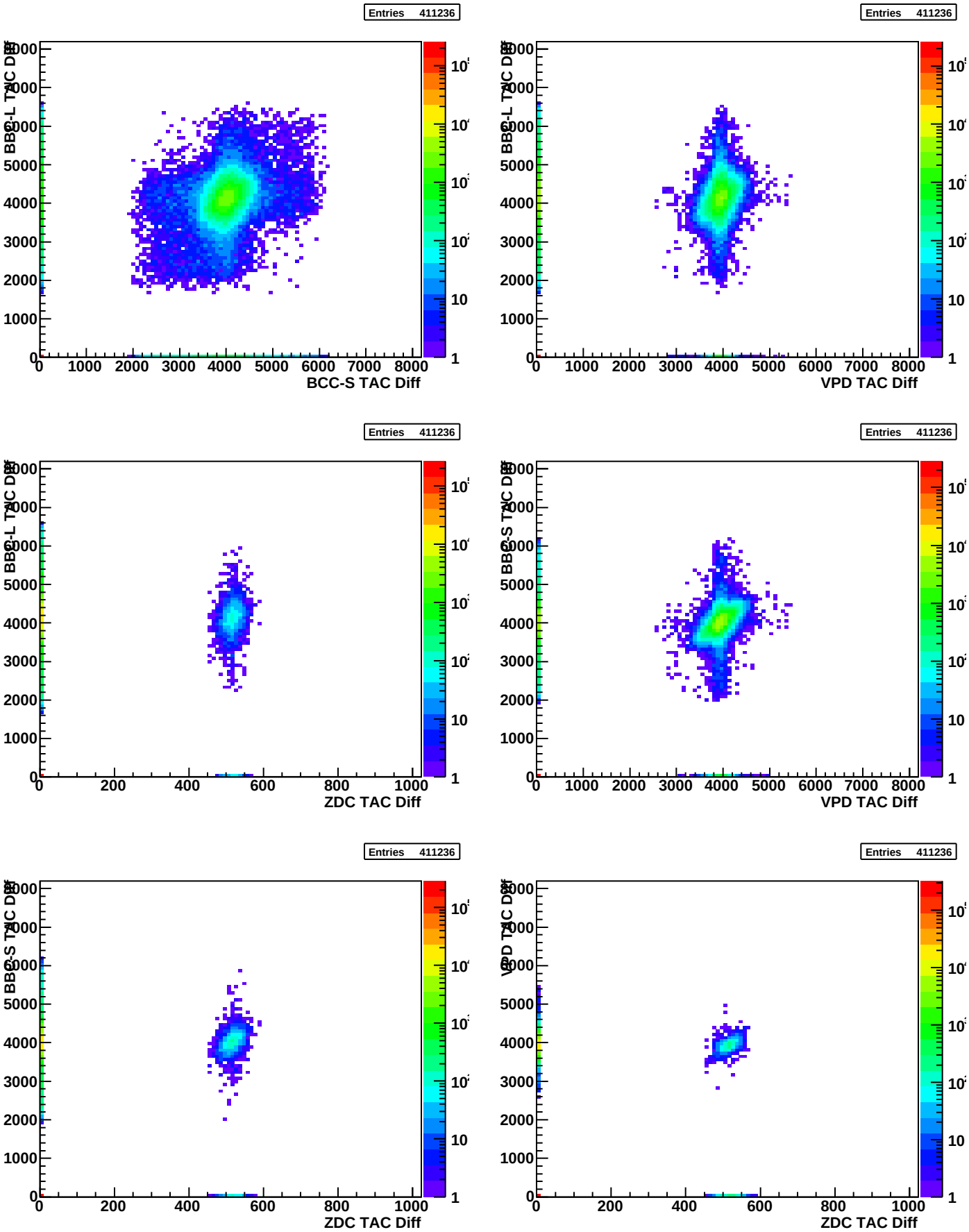

Entries 411236
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

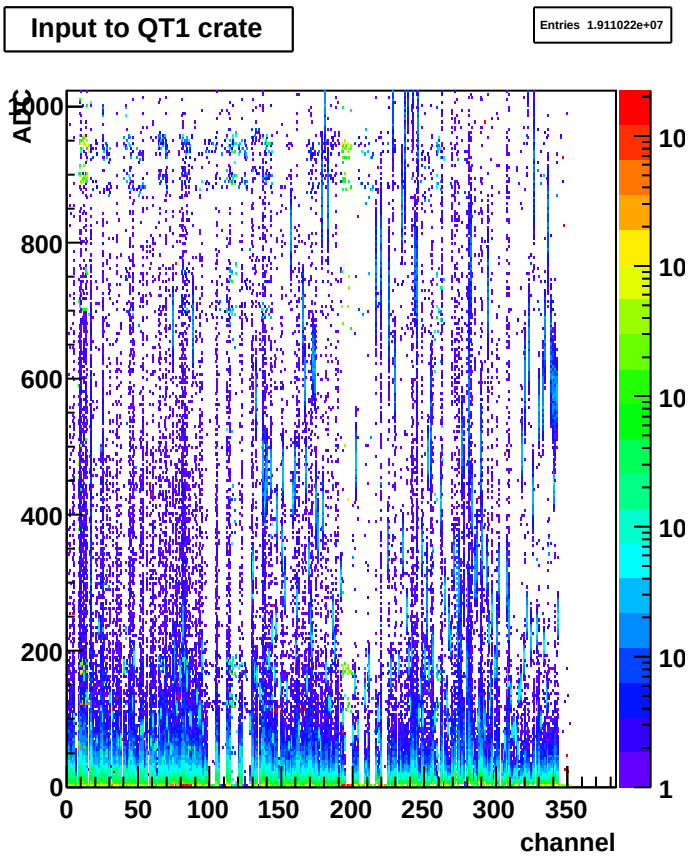

Entries 411236
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

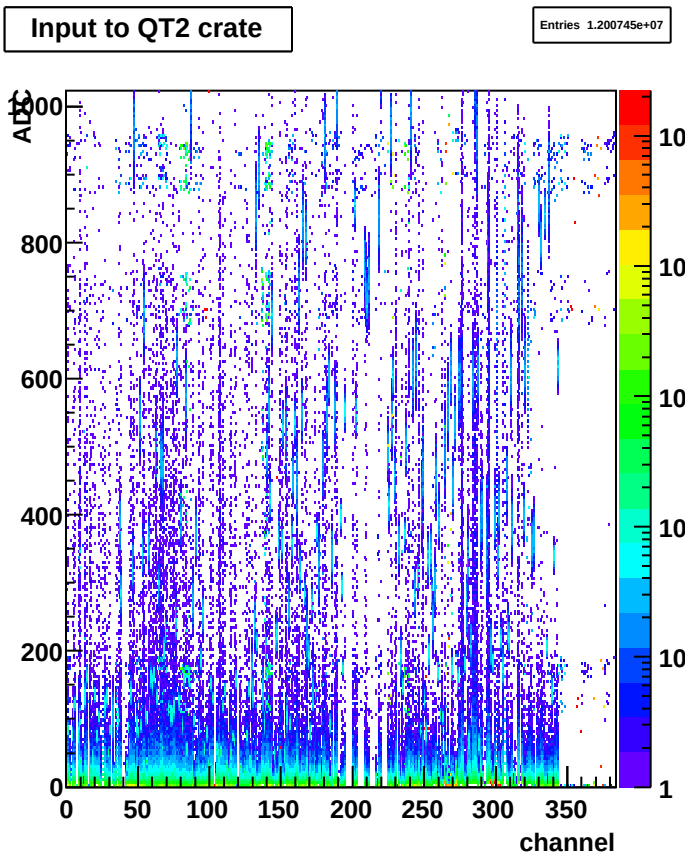

Entries 411236
BBC-L-East ADC Sum
BBC-L-West ADC Sum

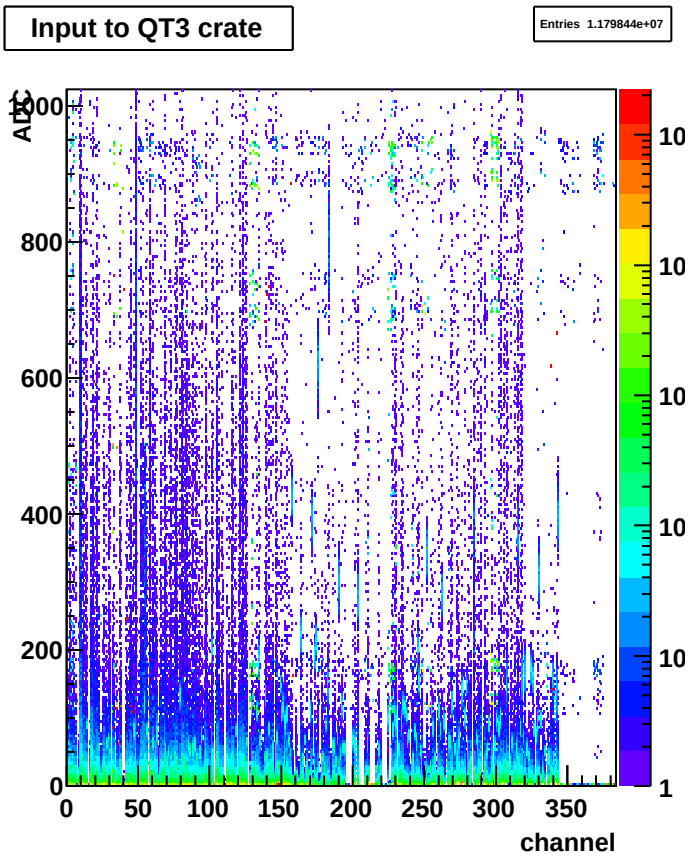

Entries 411236
BBC-S-East ADC Sum
BBC-S-West ADC Sum

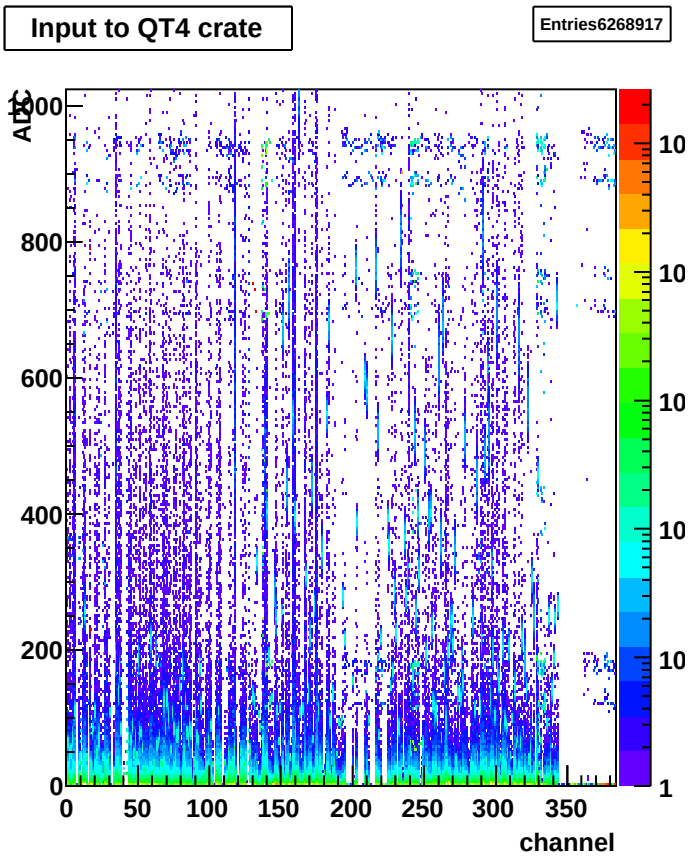

Entries 411236
ZDC East ADC Sum Att
ZDC West ADC Sum Att

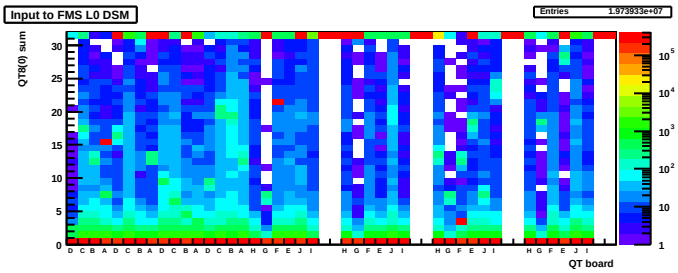

Entries 411236
BBC-L TAC Diff
BCC-S TAC Diff
Entries 411236
BBC-L TAC Diff
VPD TAC Diff
Entries 411236
BBC-L TAC Diff
ZDC TAC Diff
Entries 411236
BBC-S TAC Diff
VPD TAC Diff
Entries 411236
BBC-S TAC Diff
ZDC TAC Diff
Entries 411236
VPD TAC Diff
ZDC TAC Diff

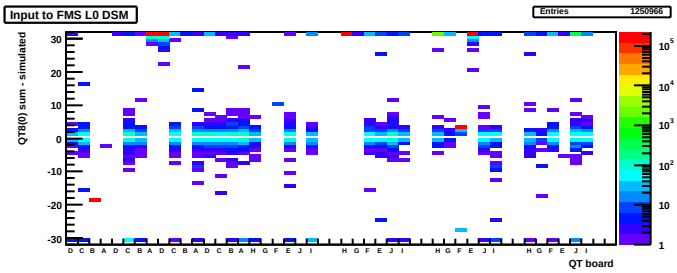

Input to QT1 crate
Entries 1.911022e+07
ADC
channel

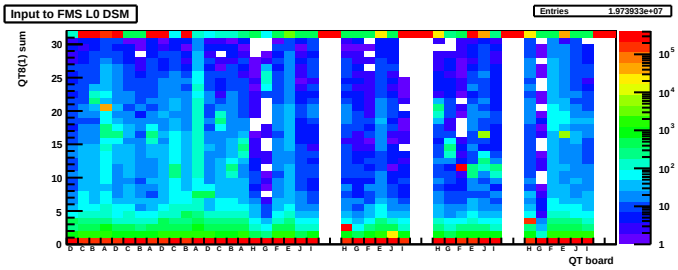

Input to QT2 crate
Entries 1.200745e+07
ADC
channel

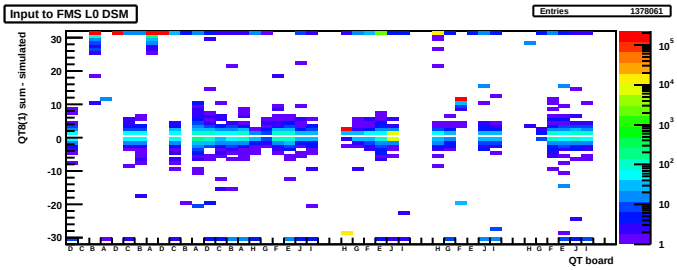

Input to QT3 crate
Entries 1.179844e+07
ADC
channel

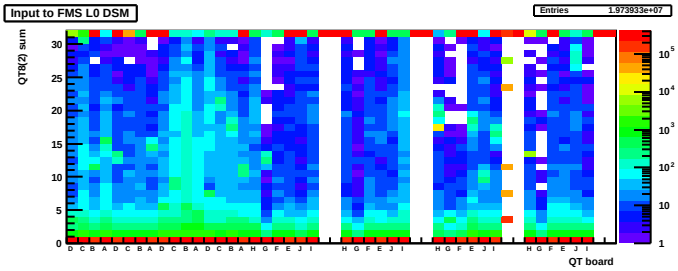

Input to QT4 crate
Entries6268917
ADC
channel

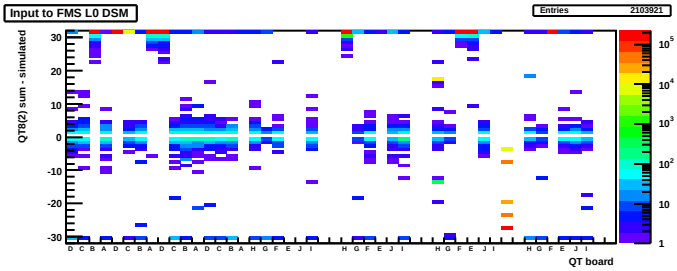

Input to FMS L0 DSM
Entries 1.973933e+07
QT8(0) sum
QT board

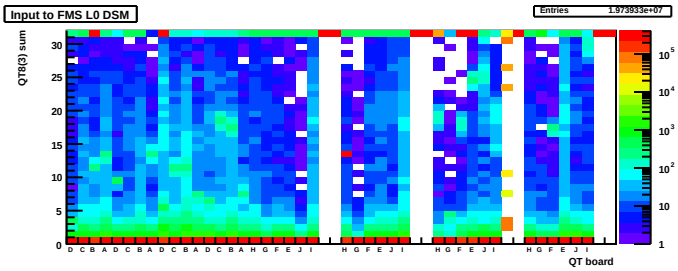

Input to FMS L0 DSM
Entries 1250966
QT8(0) sum - simulated
QT board

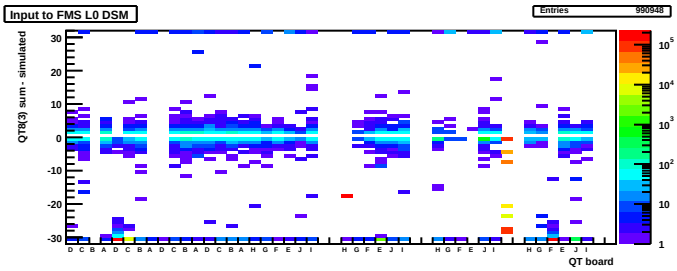

Input to FMS L0 DSM
Entries 1.973933e+07
QT8(1) sum
QT board

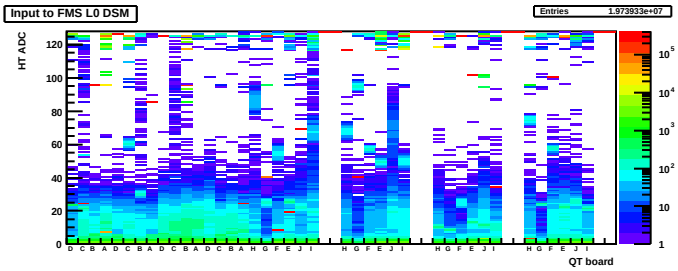

Input to FMS L0 DSM
Entries 1378061
QT8(1) sum - simulated
QT board

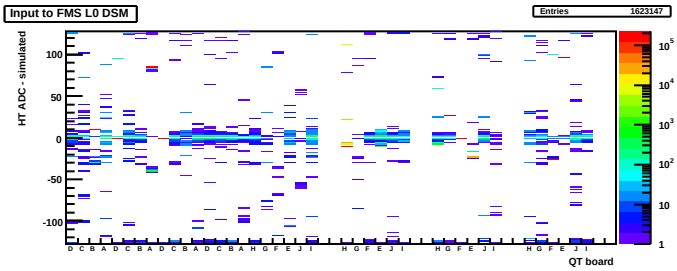

Input to FMS L0 DSM
Entries 1.973933e+07
QT8(2) sum
QT board

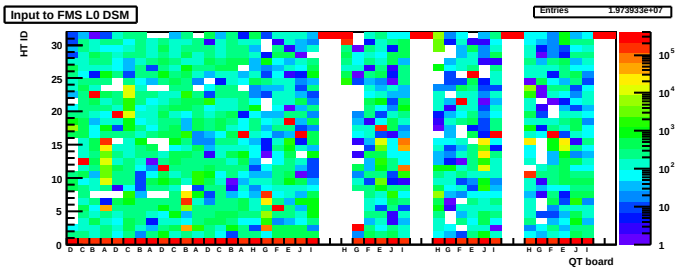

Input to FMS L0 DSM
Entries 2103921
QT8(2) sum - simulated
QT board

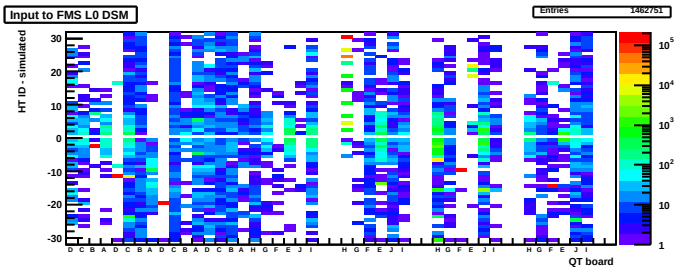

Input to FMS L0 DSM
Entries 1.973933e+07
QT8(3) sum
QT board

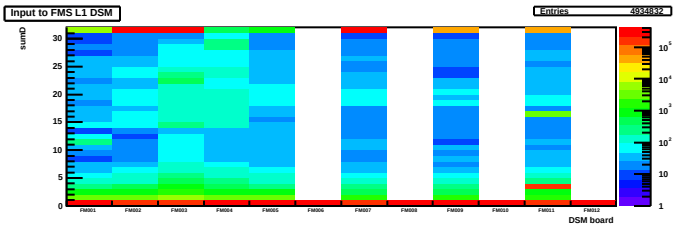

Input to FMS L0 DSM
Entries 990948
QT8(3) sum - simulated
QT board

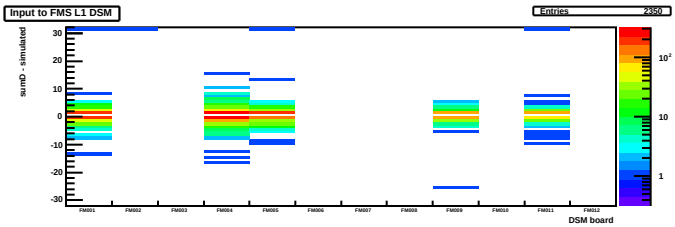

Input to FMS L0 DSM
Entries 1.973933e+07
HT ADC
QT board

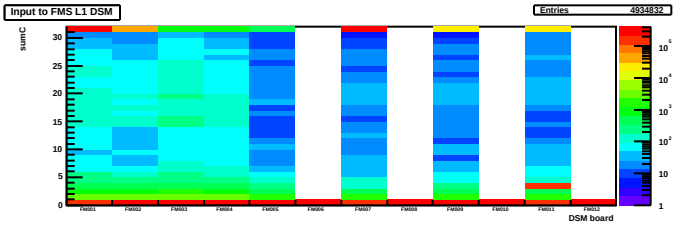

Input to FMS L0 DSM
Entries 1623147
HT ADC - simulated
QT board

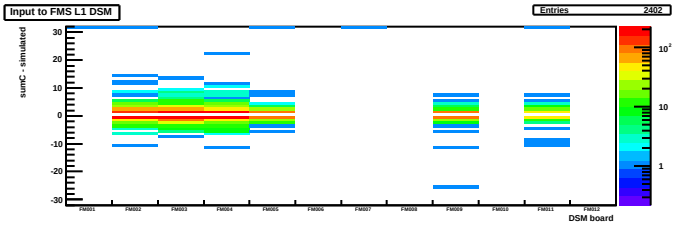

Input to FMS L0 DSM
Entries 1.973933e+07
HT ID
QT board

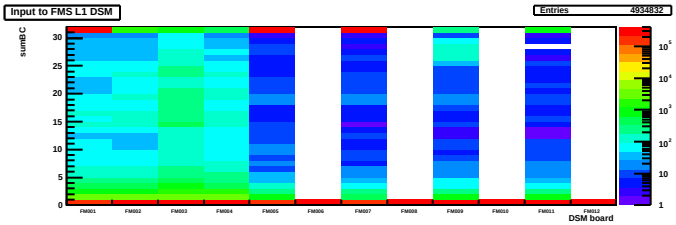

Input to FMS L0 DSM
Entries 1462751
HT ID - simulated
QT board

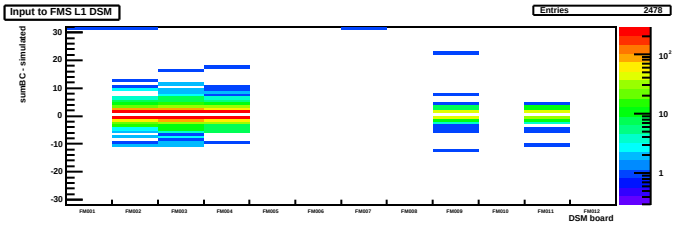

Input to FMS L1 DSM
Entries 4934832
sumD
DSM board

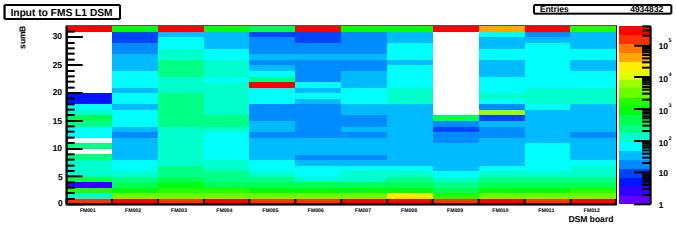

Input to FMS L1 DSM
Entries 2350
sumD - simulated
DSM board

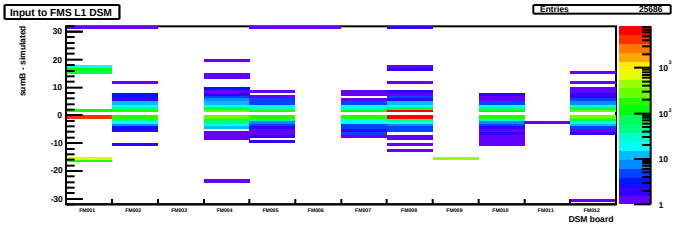

Input to FMS L1 DSM
Entries 4934832
sumC
DSM board

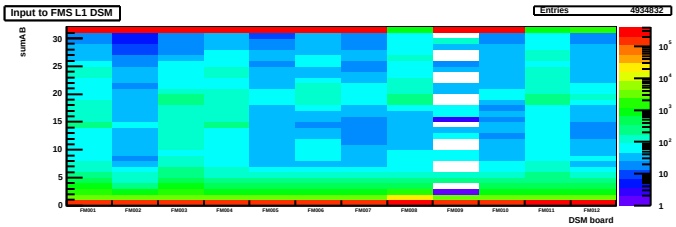

Input to FMS L1 DSM
Entries 2402
sumC - simulated
DSM board

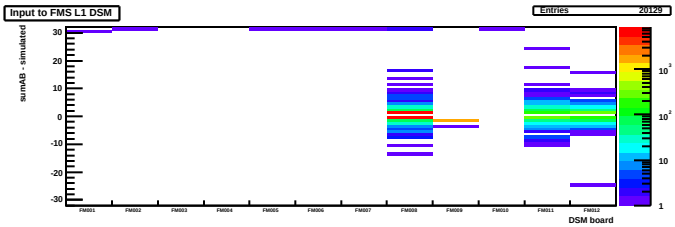

Input to FMS L1 DSM
Entries 4934832
sumBC
DSM board

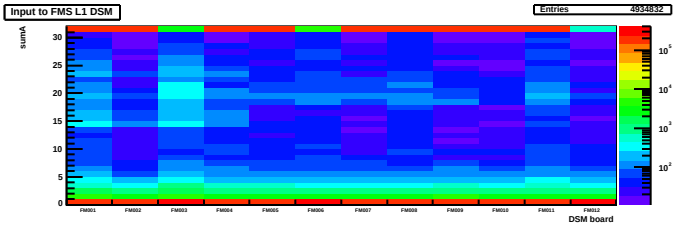

Input to FMS L1 DSM
Entries 2478
sumBC - simulated
DSM board

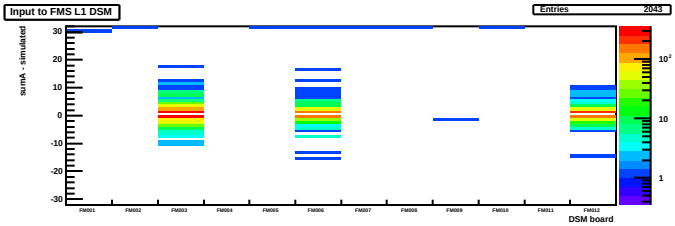

Input to FMS L1 DSM
Entries 4934832
sumB
DSM board

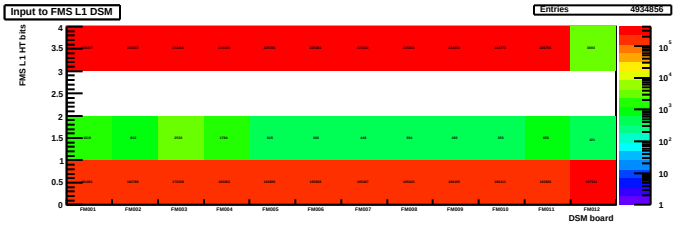

Input to FMS L1 DSM
Entries 25686
sumB - simulated
DSM board

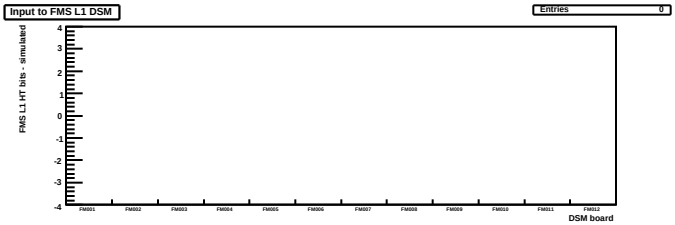

Input to FMS L1 DSM
Entries 4934832
sumAB
DSM board

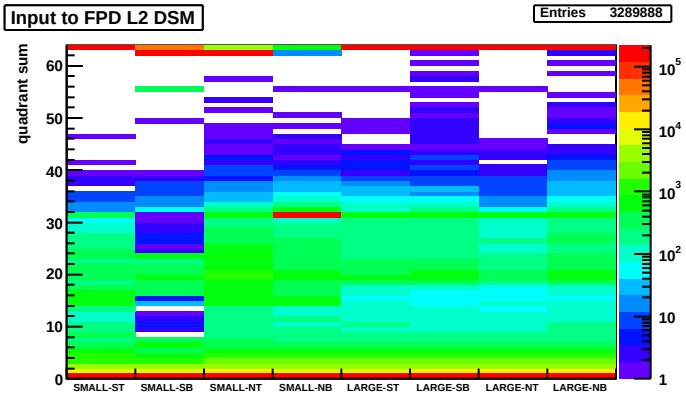

Input to FMS L1 DSM
Entries 20129
sumAB - simulated
DSM board

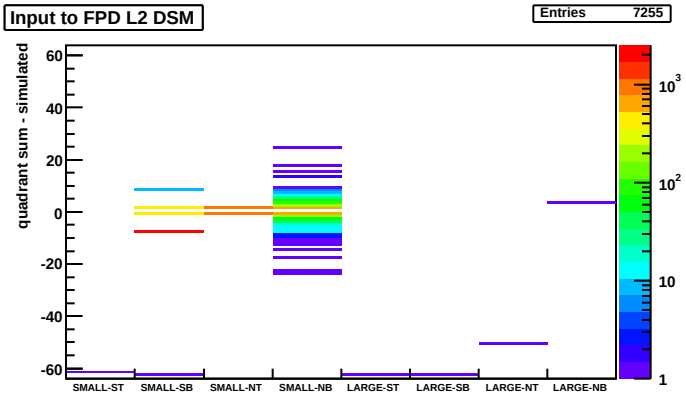

Input to FMS L1 DSM
Entries 4934832
sumA
DSM board

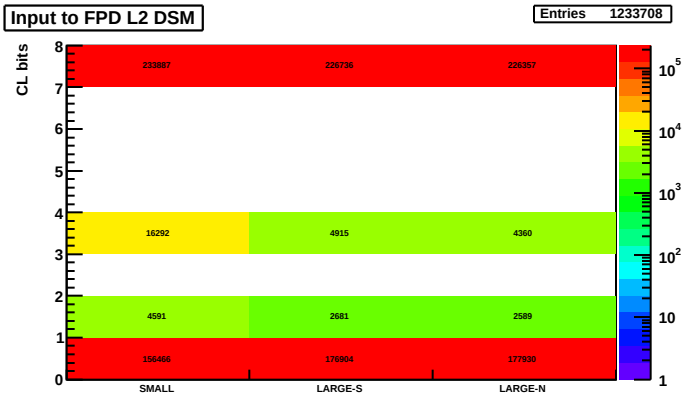

Input to FMS L1 DSM
Entries 2043
sumA - simulated
DSM board

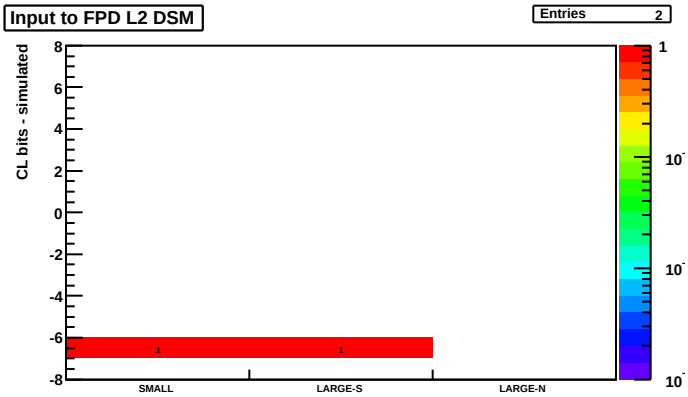

Input to FMS L1 DSM
Entries 4934856
FMS L1 HT bits
DSM board

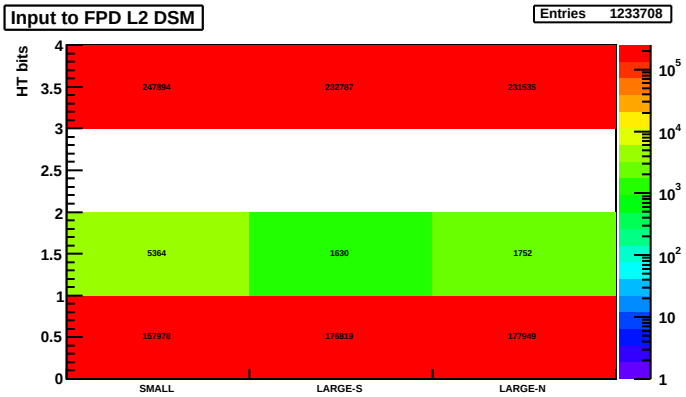

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

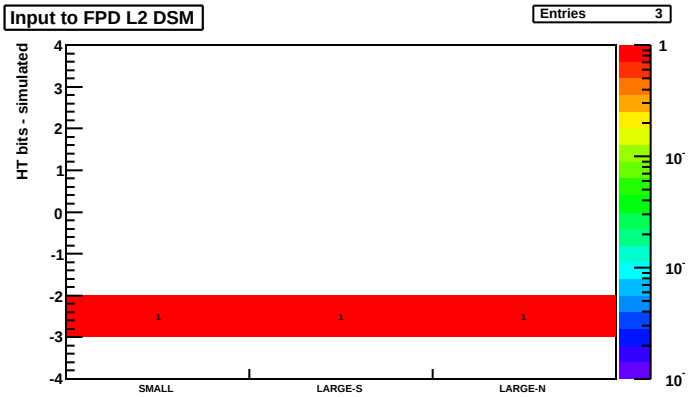

Input to FPD L2 DSM
Entries 3289888
quadrant sum
SMALL-ST
SMALL-SB
SMALL-NT
SMALL-NB
LARGE-ST
LARGE-SB
LARGE-NT
LARGE-NB

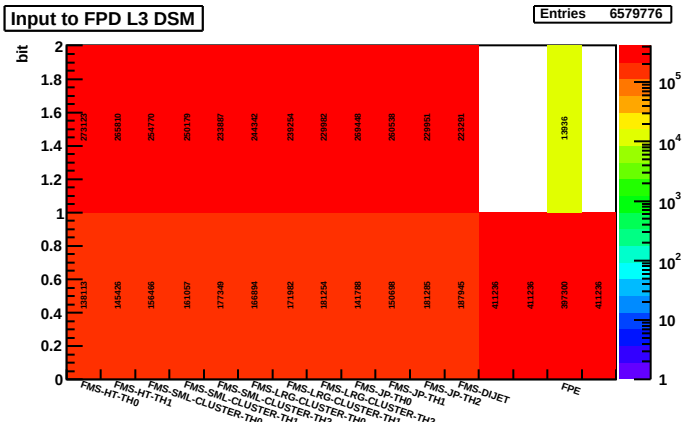

Input to FPD L2 DSM
Entries 7255
quadrant sum - simulated
SMALL-ST
SMALL-SB
SMALL-NT
SMALL-NB
LARGE-ST
LARGE-SB
LARGE-NT
LARGE-NB

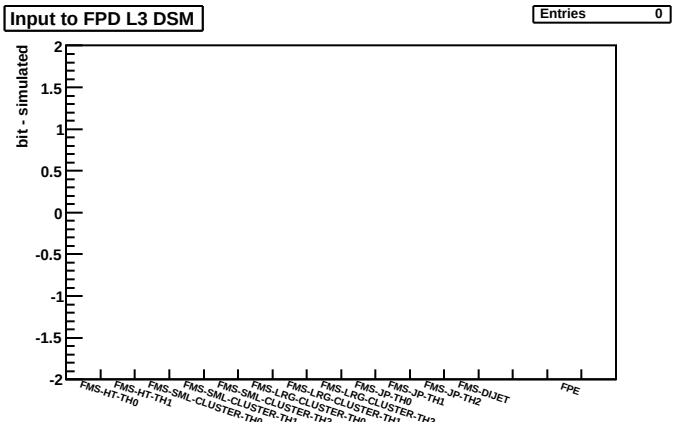

Input to FPD L2 DSM
Entries 1233708
CL bits
233887
226736
226357
16292
4915
4360
4591
2681
2589
156466
176904
177930
SMALL
LARGE-S
LARGE-N

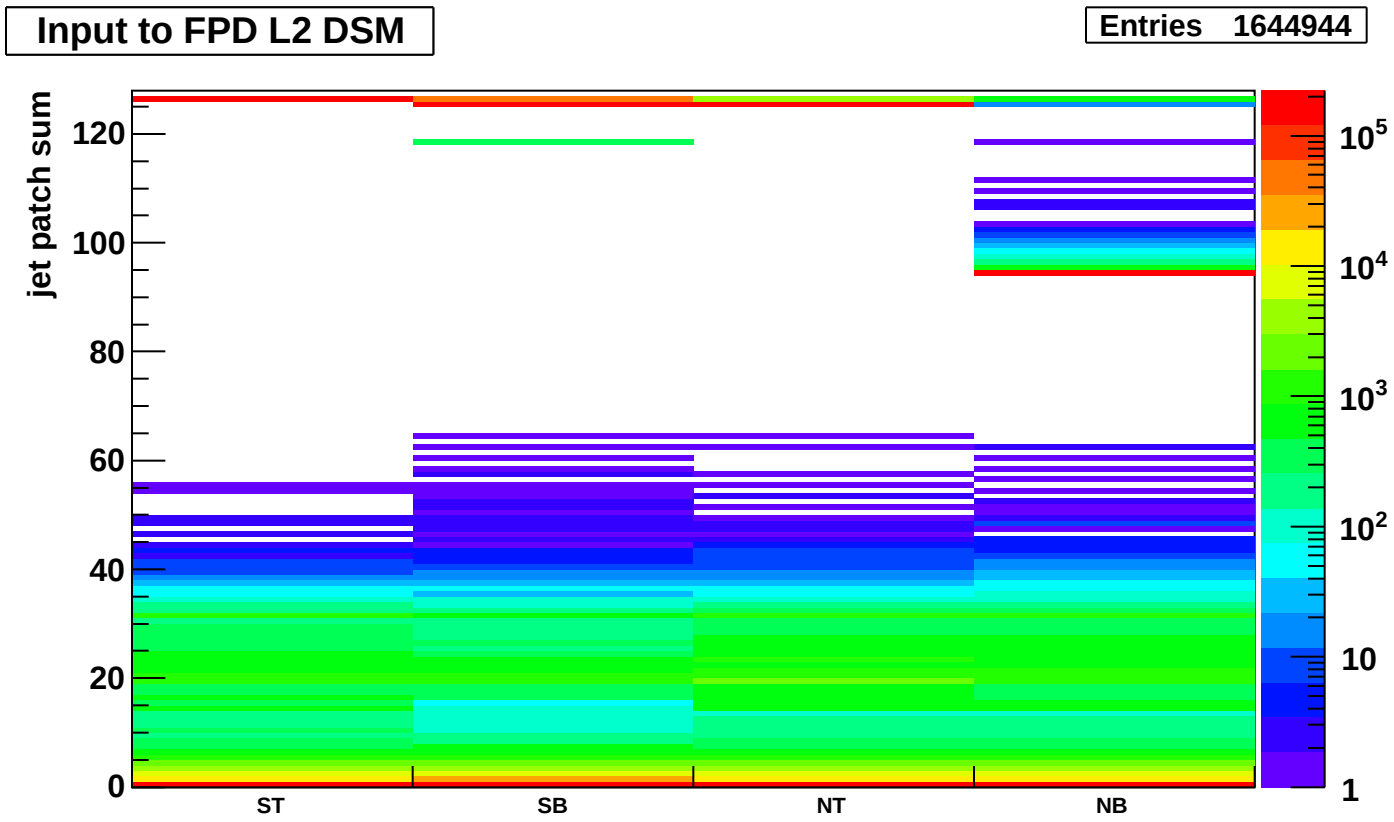

Input to FPD L2 DSM
Entries 2
CL bits - simulated
1
1
SMALL
LARGE-S
LARGE-N

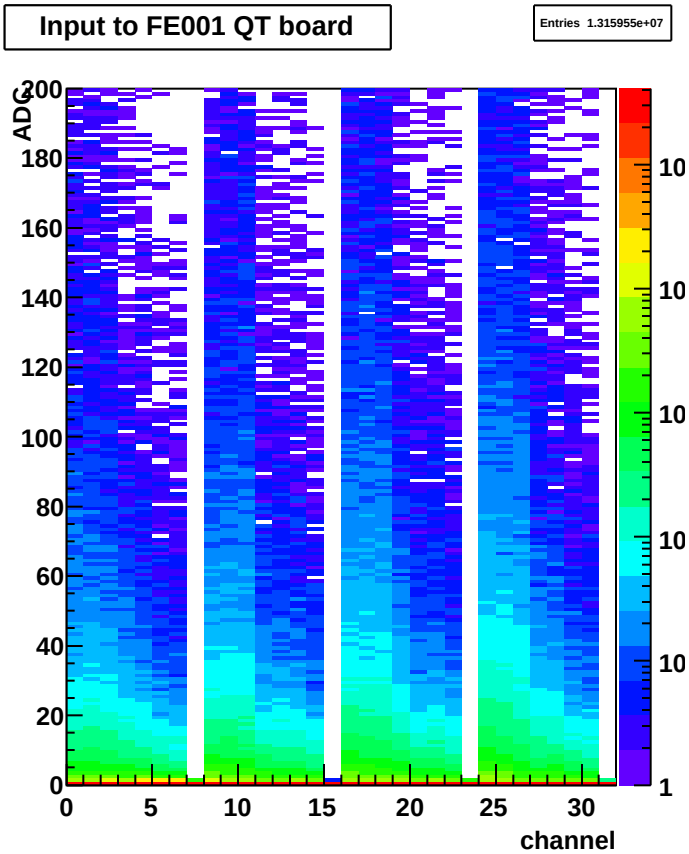

Input to FPD L2 DSM
Entries 1233708
HT bits
247894
232787
231535
5364
1630
1752
157978
176819
177949
SMALL
LARGE-S
LARGE-N

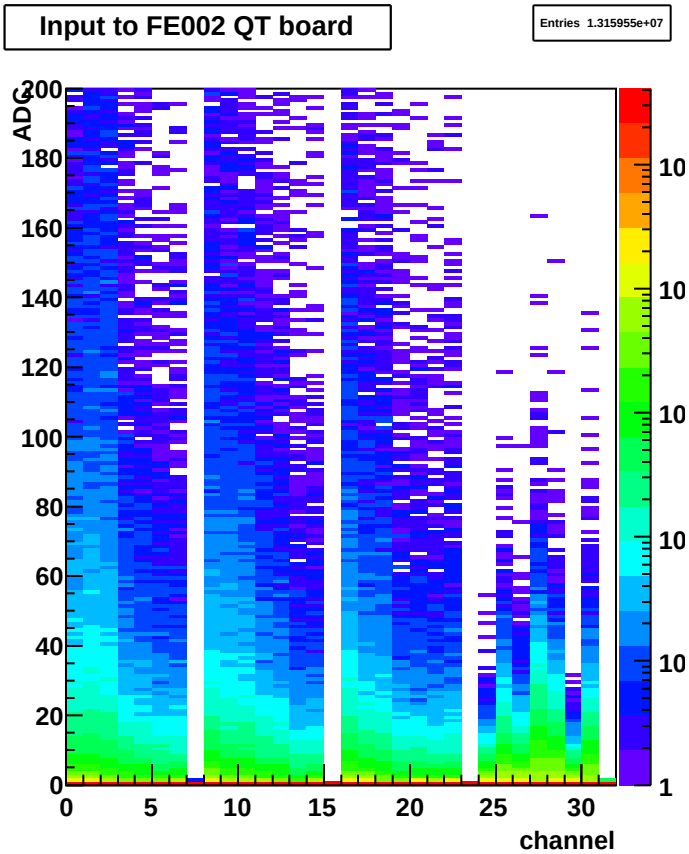

Input to FPD L2 DSM
Entries 3
HT bits - simulated
1
1
1
SMALL
LARGE-S
LARGE-N

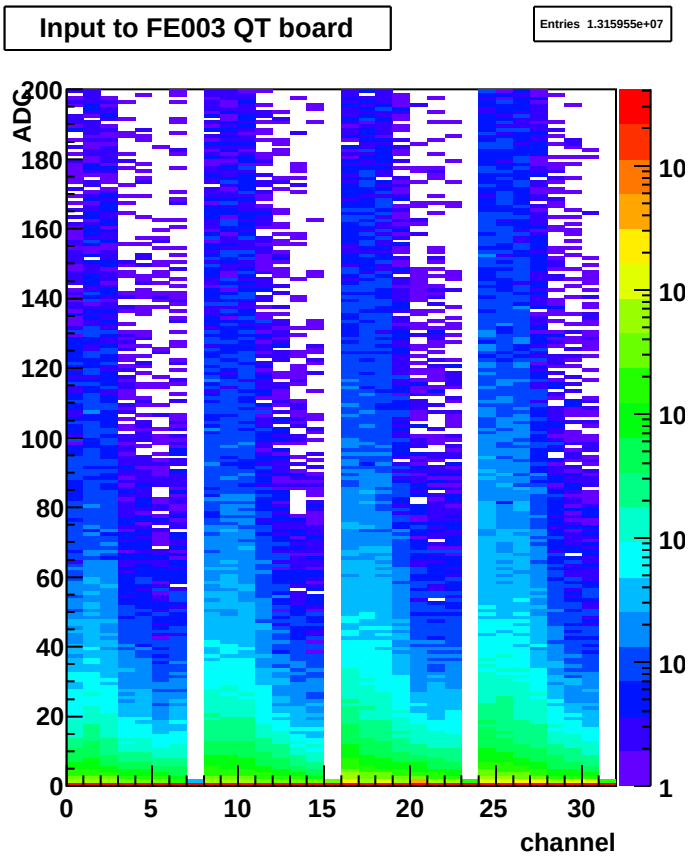

Input to FPD L3 DSM
Entries 6579776
bit
273127
265810
254770
250179
233887
244342
239254
229982
269448
260638
229951
223291
13936
138113
145426
156466
161057
177349
166894
171982
181254
141788
150698
181285
187945
411236
411236
397300
411236
FMS-HT-TH0
FMS-HT-TH1
FMS-SML-CLUSTER-TH0
FMS-SML-CLUSTER-TH1
FMS-SML-CLUSTER-TH2
FMS-LRG-CLUSTER-TH0
FMS-LRG-CLUSTER-TH1
FMS-LRG-CLUSTER-TH2
FMS-JP-TH0
FMS-JP-TH1
FMS-JP-TH2
FMS-DIJET
FPE

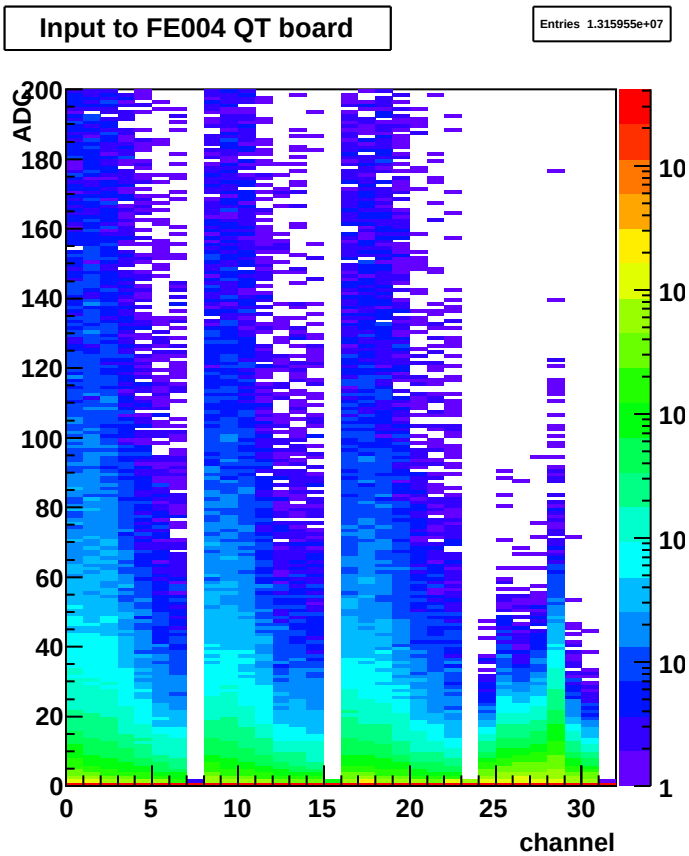

Input to FPD L3 DSM
Entries 0
bit - simulated
FMS-HT-TH0
FMS-HT-TH1
FMS-SML-CLUSTER-TH0
FMS-SML-CLUSTER-TH1
FMS-SML-CLUSTER-TH2
FMS-LRG-CLUSTER-TH0
FMS-LRG-CLUSTER-TH1
FMS-LRG-CLUSTER-TH2
FMS-JP-TH0
FMS-JP-TH1
FMS-JP-TH2
FMS-DIJET
FPE

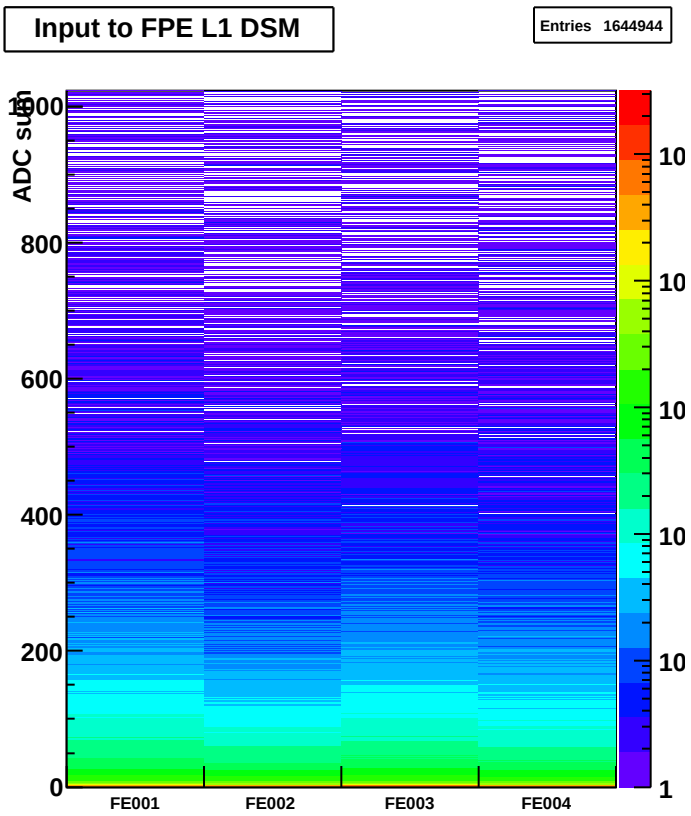

Input to FPD L2 DSM
Entries 1644944
jet patch sum
0
20
40
60
80
100
120
ST
SB
NT
NB
1
10
$10^2$
$10^3$
$10^4$
$10^5$

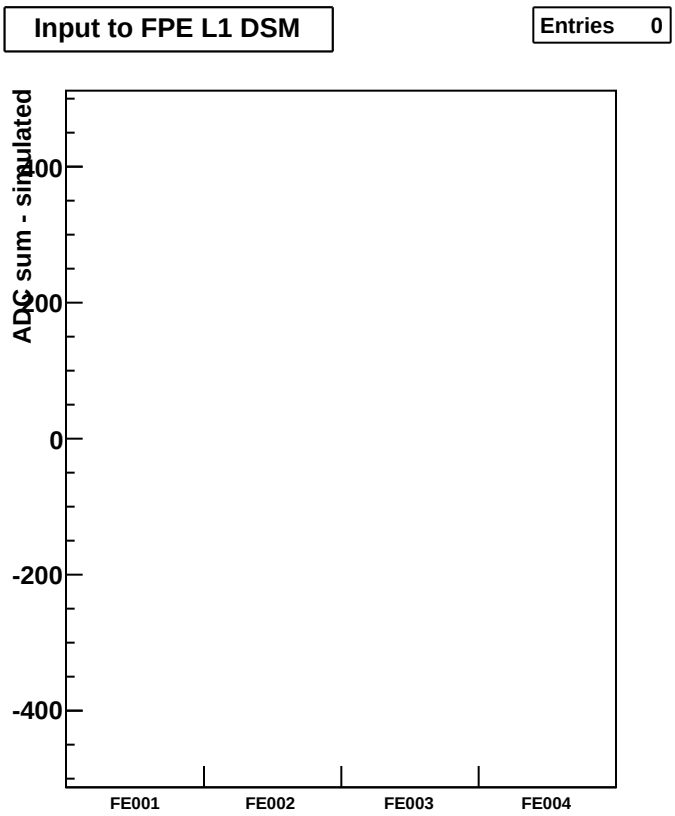

Input to FE001 QT board
Entries 1.315955e+07
ADC
channel

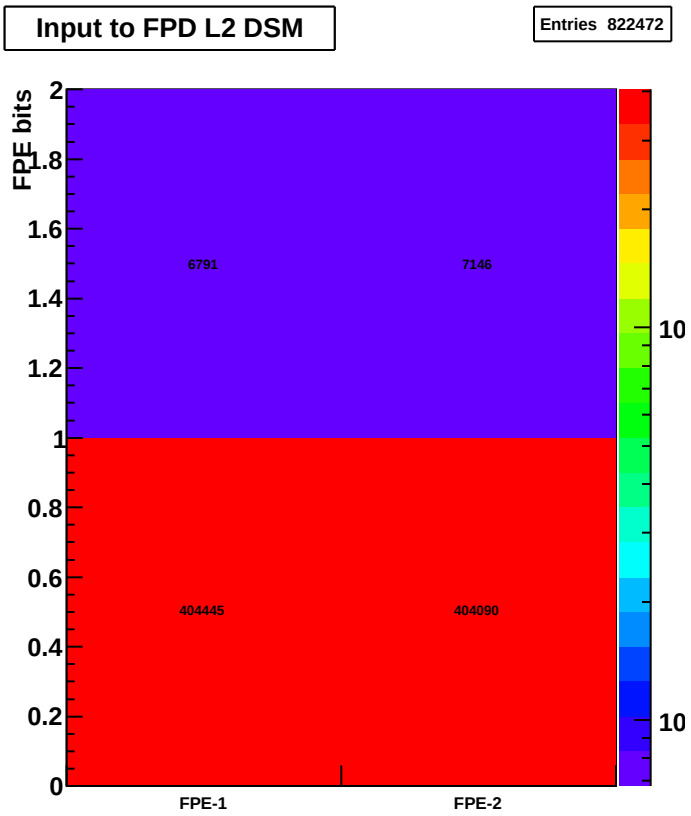

Input to FE002 QT board
Entries 1.315955e+07
ADC
channel

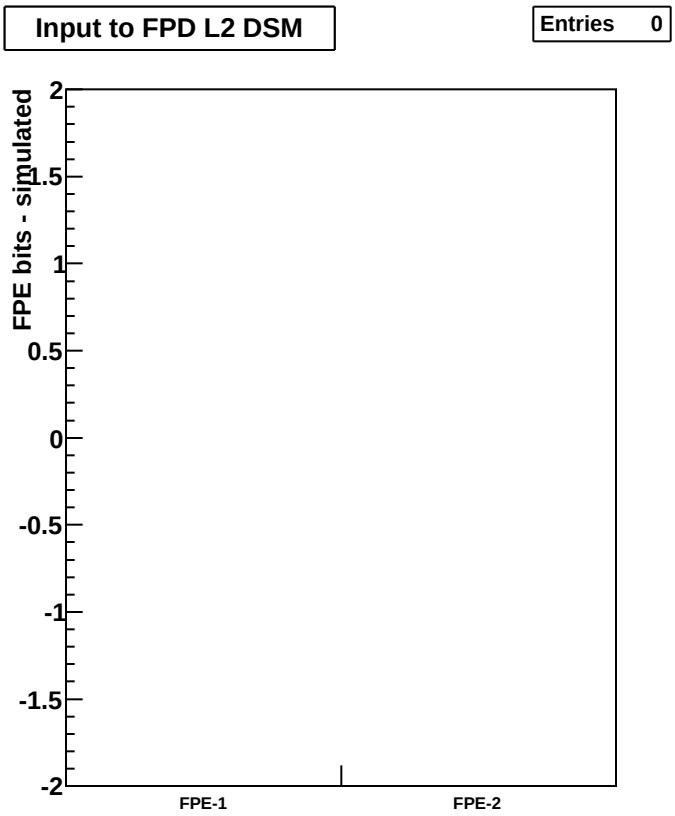

Input to FE003 QT board
Entries 1.315955e+07
ADC
channel


Input to FE004 QT board
Entries 1.315955e+07
ADC
channel


Input to FPE L1 DSM
Entries 1644944
ADC sum
1000
800
600
400
200
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1


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


Input to FPD L2 DSM
Entries 822472
FPE bits
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
6791
7146
404445
404090
FPE-1
FPE-2
10
10


Input to FPD L2 DSM
Entries 0
FPE bits - simulated
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
FPE-1
FPE-2