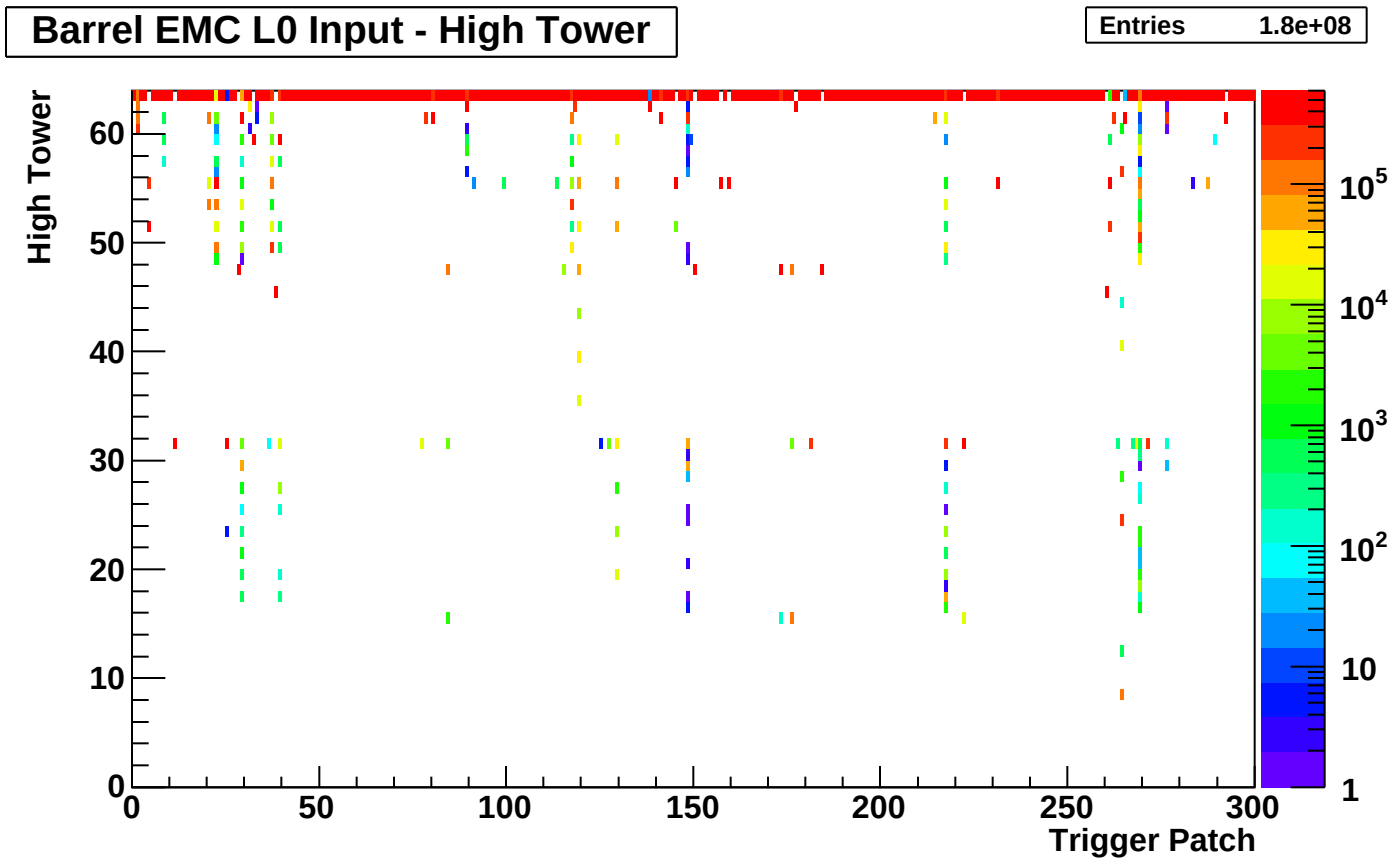
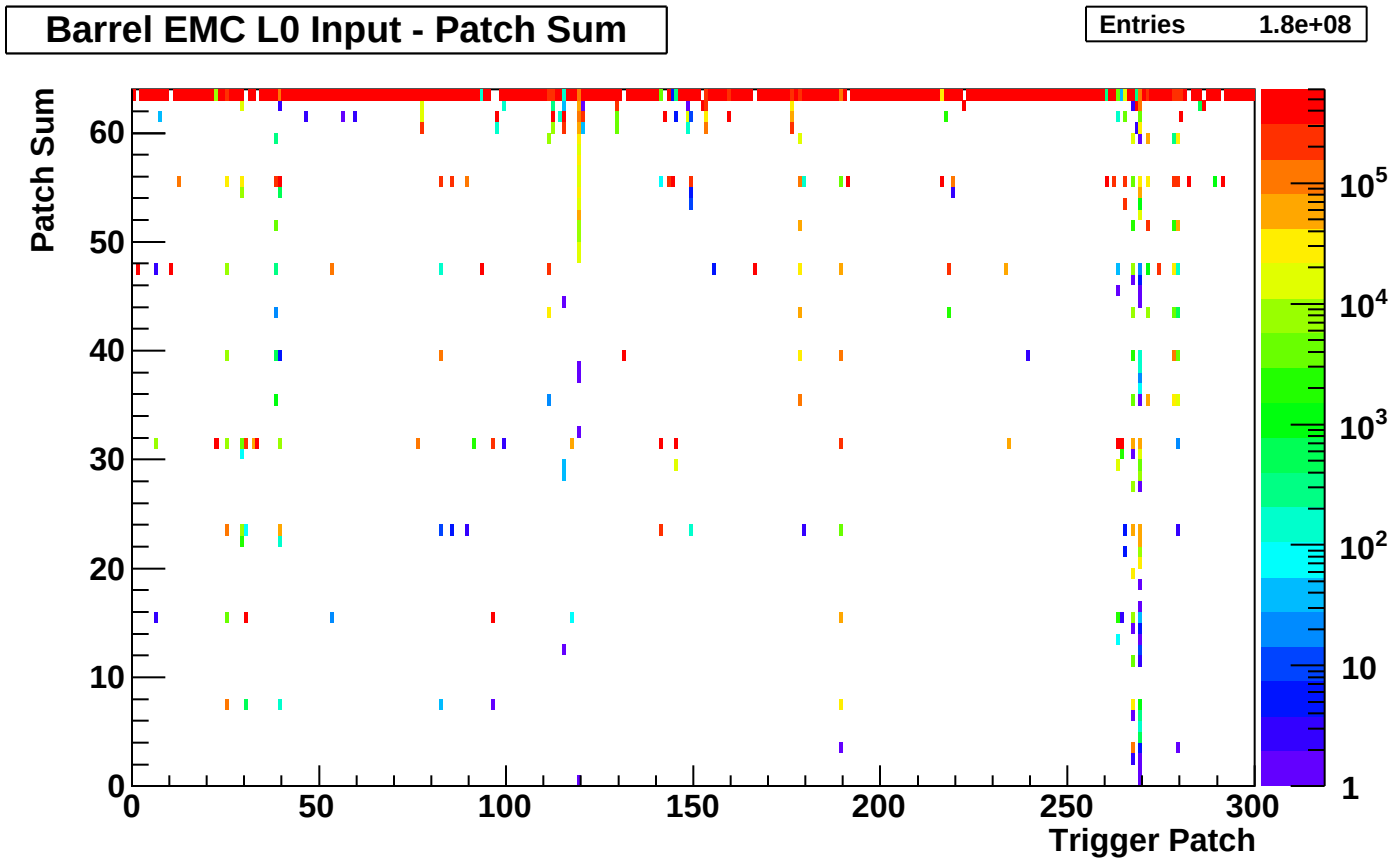
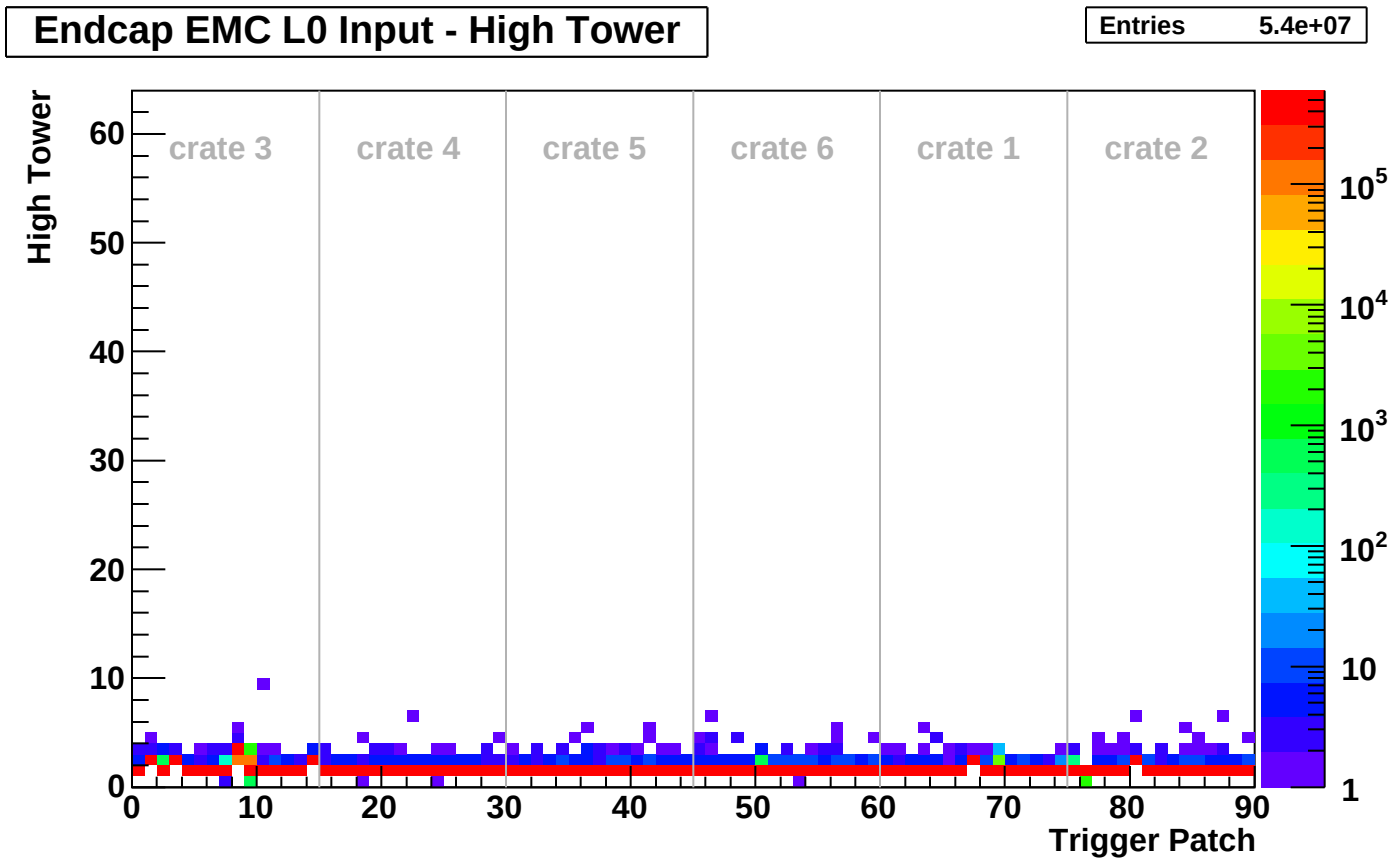
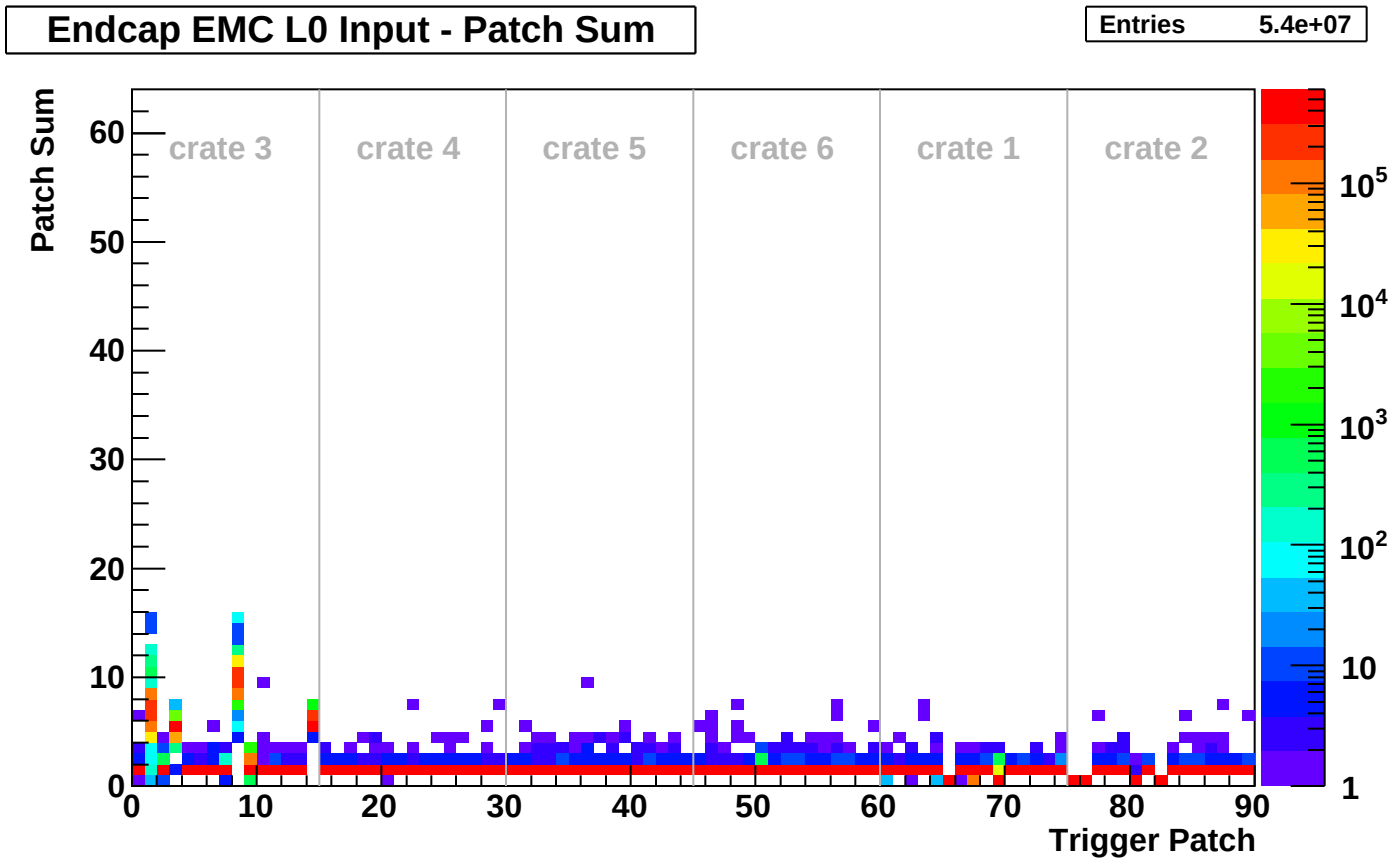
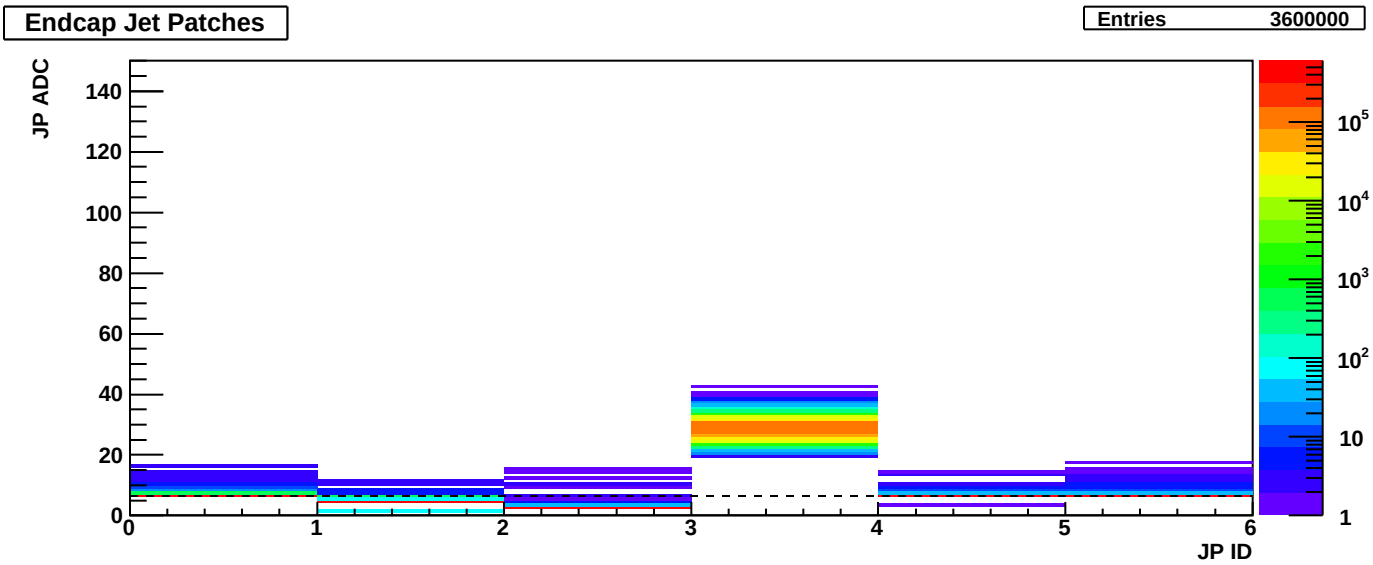
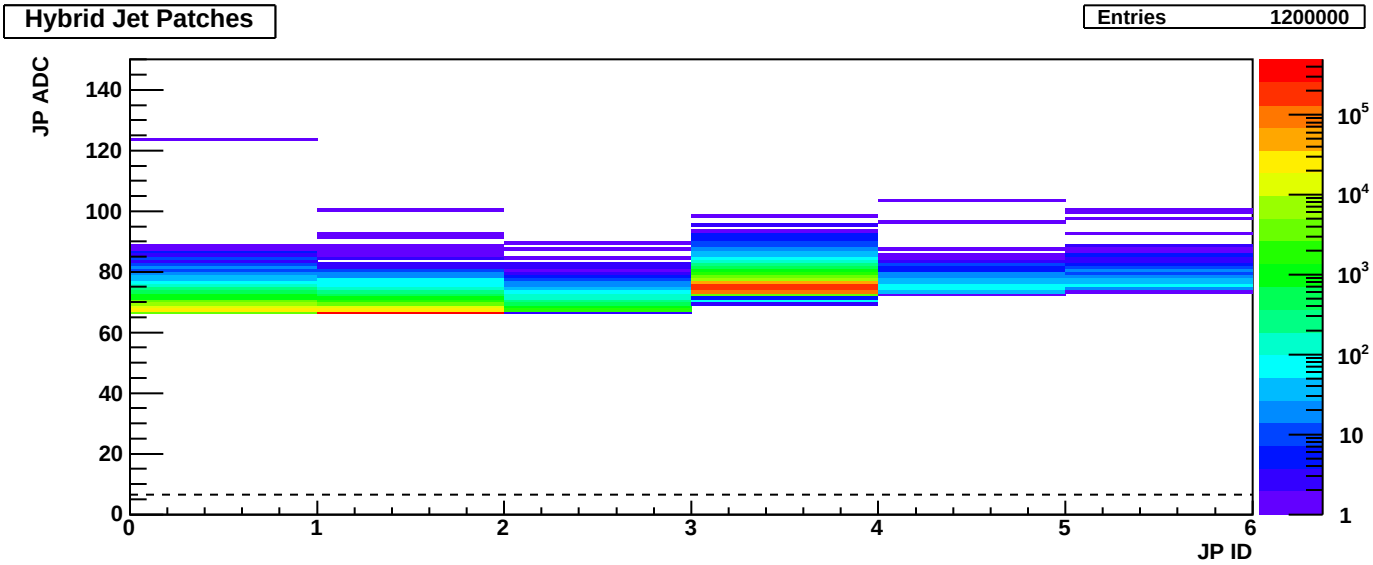

Barrel EMC L0 Input - High Tower
Entries 1.8e+08
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

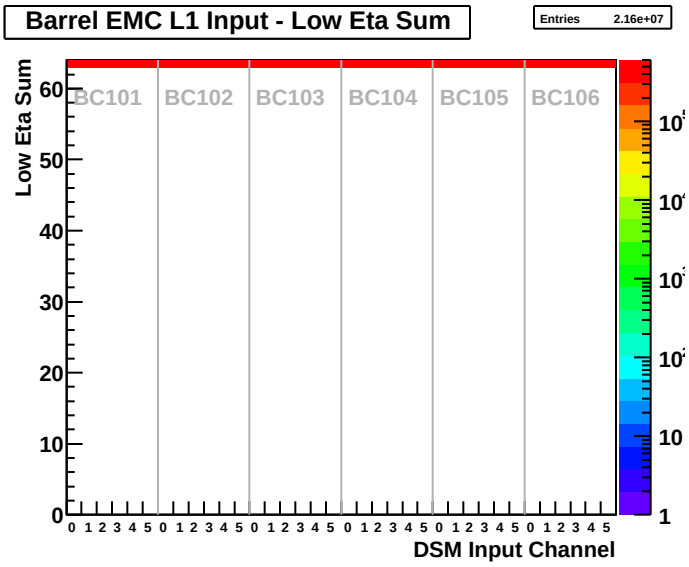

Barrel EMC L0 Input - Patch Sum
Entries 1.8e+08
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

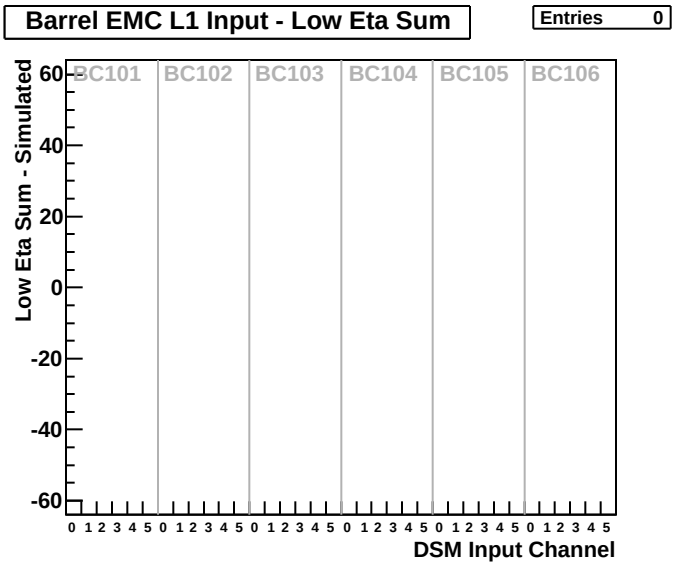

Endcap EMC L0 Input - High Tower
Entries 5.4e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

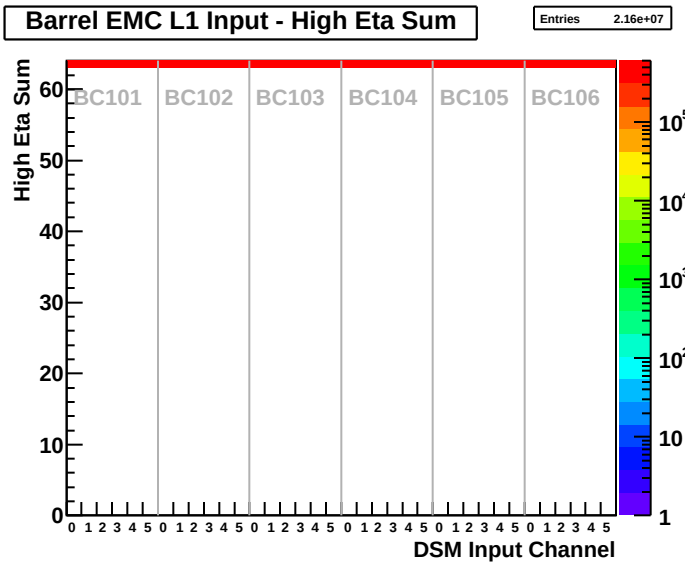

Endcap EMC L0 Input - Patch Sum
Entries 5.4e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

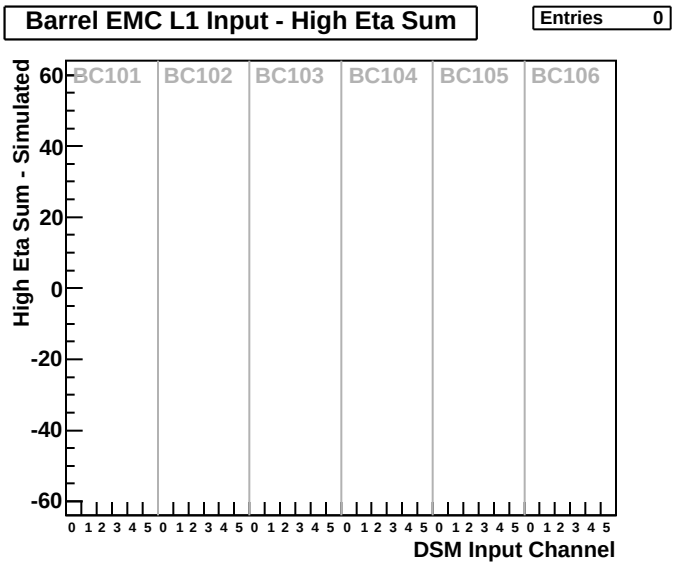

Endcap Jet Patches
Entries 3600000
JP ADC
JP ID

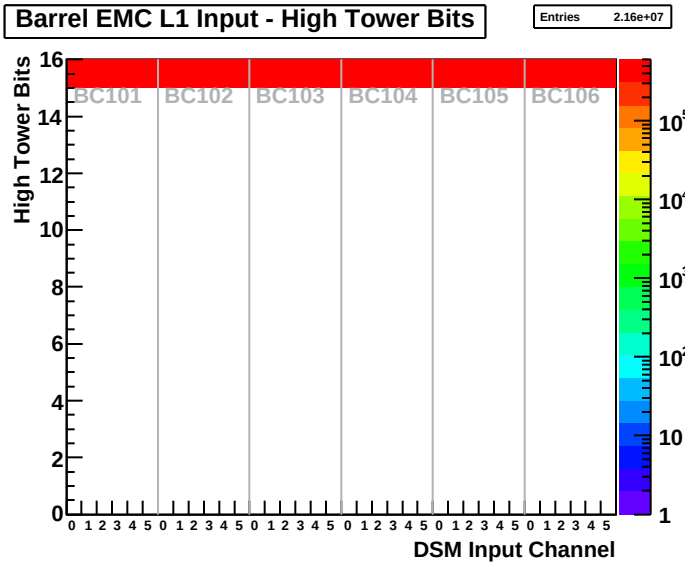

Hybrid Jet Patches
Entries 1200000
JP ADC
JP ID

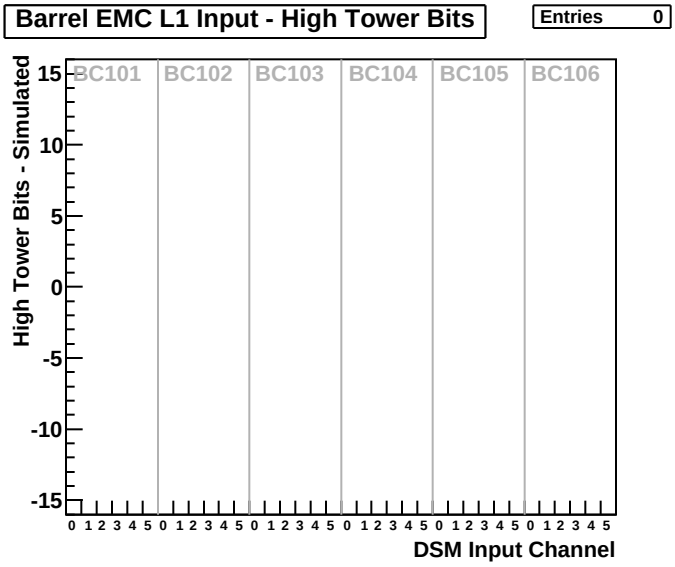

Barrel EMC L1 Input - Low Eta Sum
Entries 2.16e+07
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

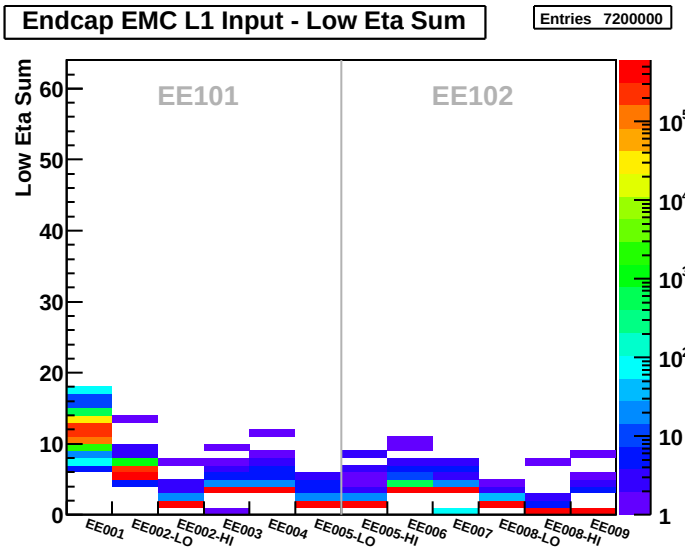

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

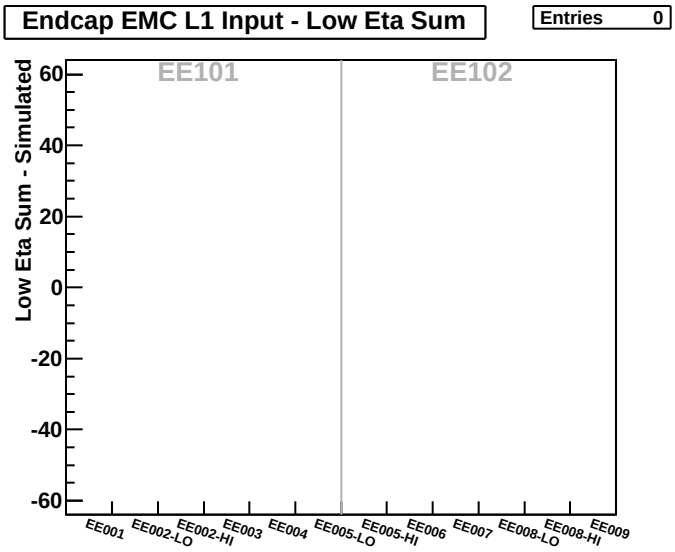

Barrel EMC L1 Input - High Eta Sum
Entries 2.16e+07
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

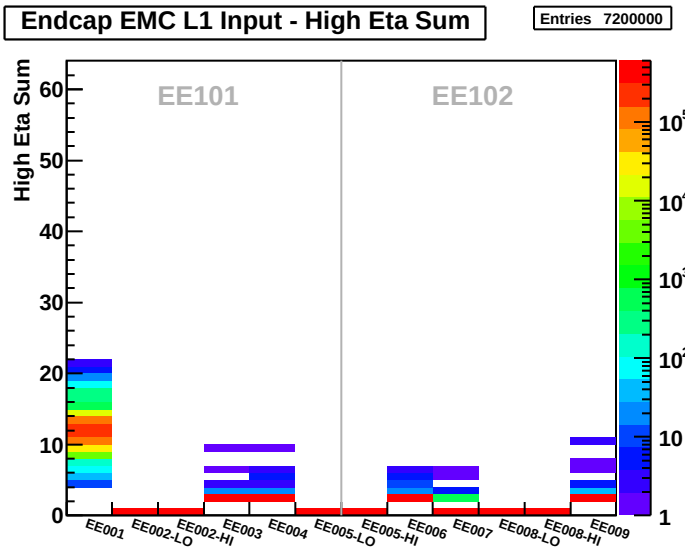

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

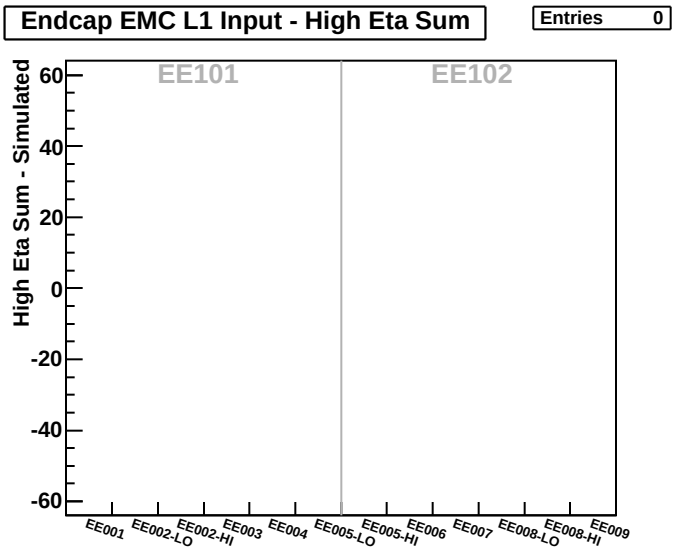

Barrel EMC L1 Input - High Tower Bits
Entries 2.16e+07
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

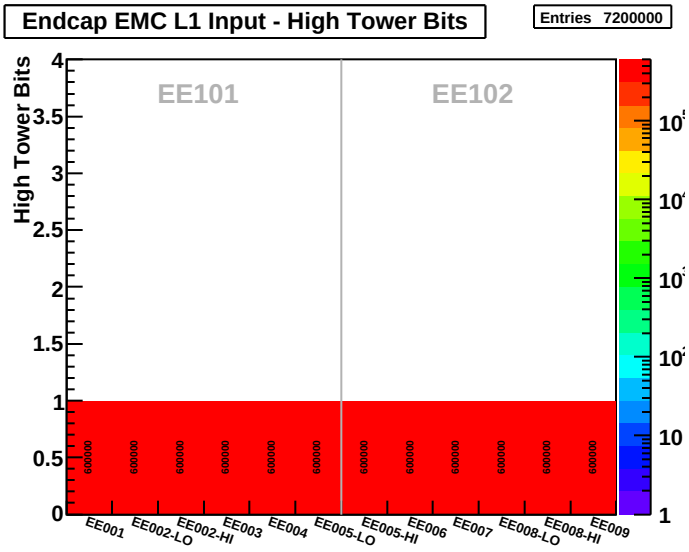

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

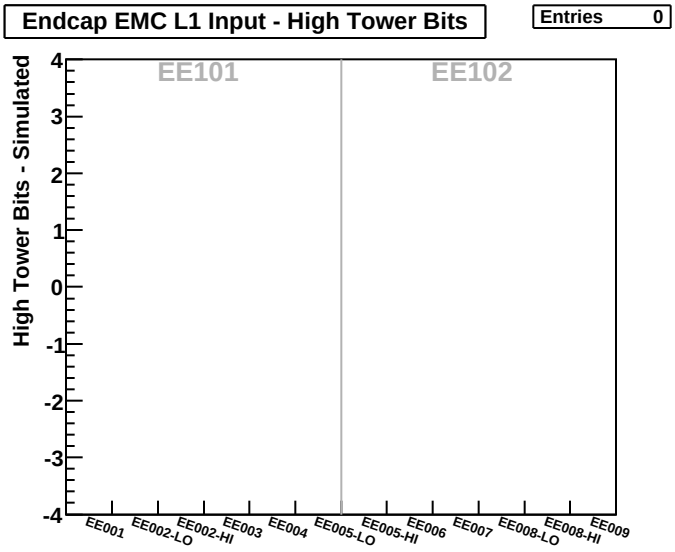

Endcap EMC L1 Input - Low Eta Sum
Entries 7200000
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

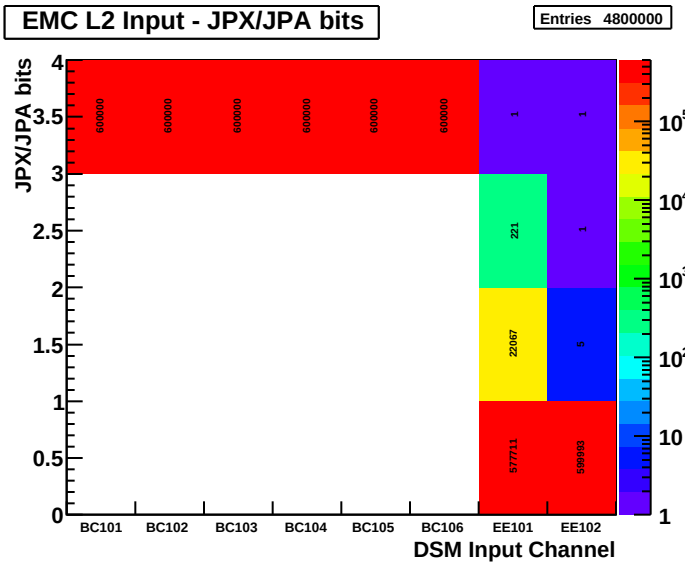

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

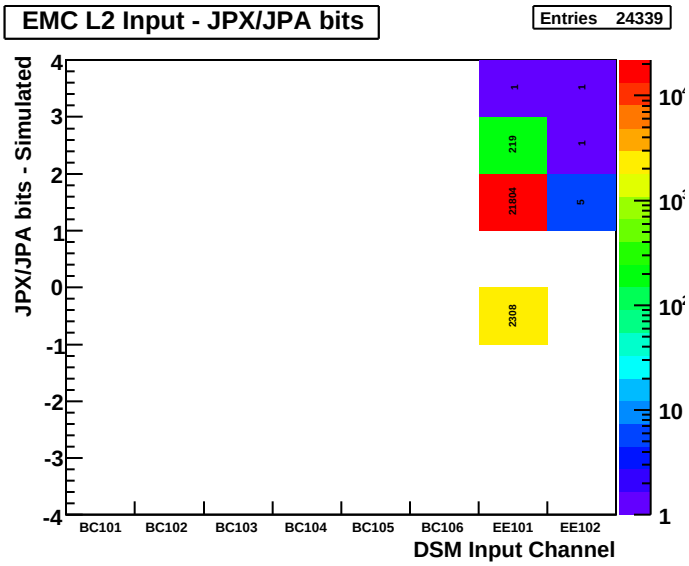

Endcap EMC L1 Input - High Eta Sum
Entries 7200000
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

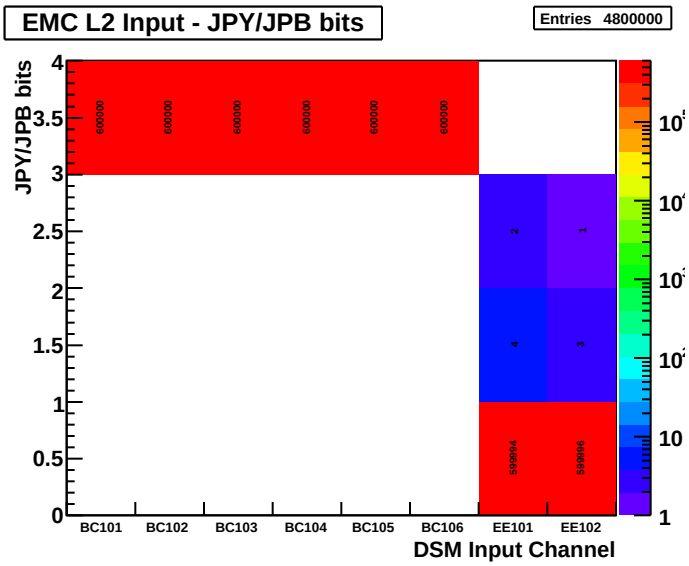

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

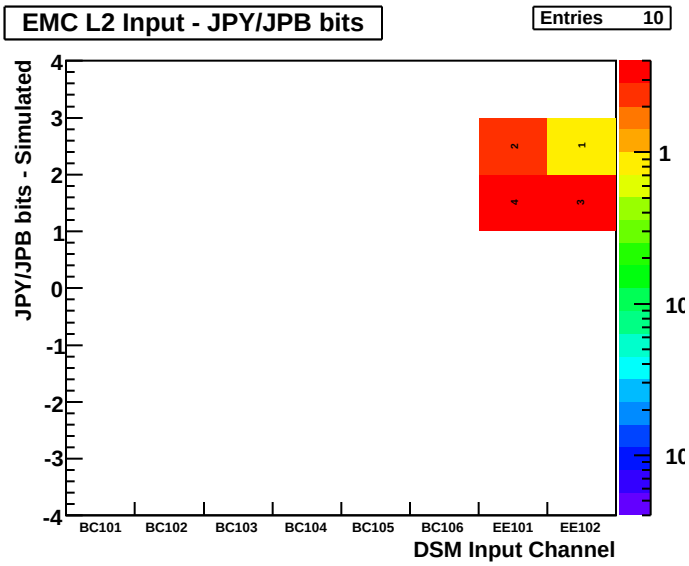

Endcap EMC L1 Input - High Tower Bits
Entries 7200000
High Tower Bits
EE101
EE102
600000
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

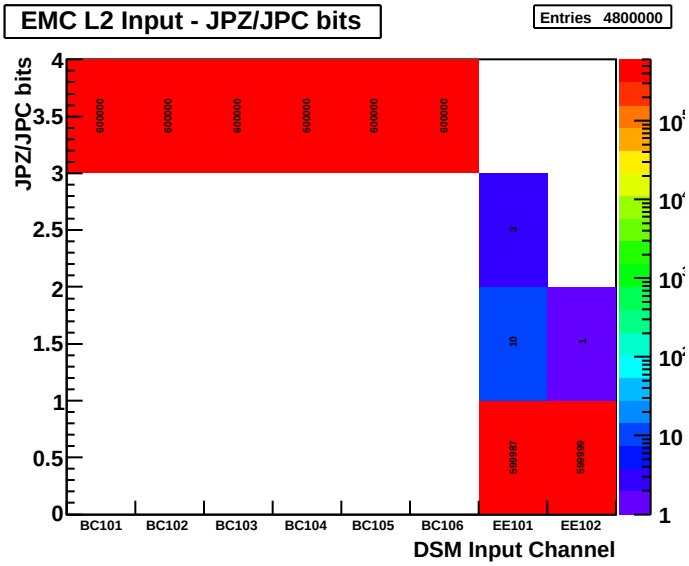

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

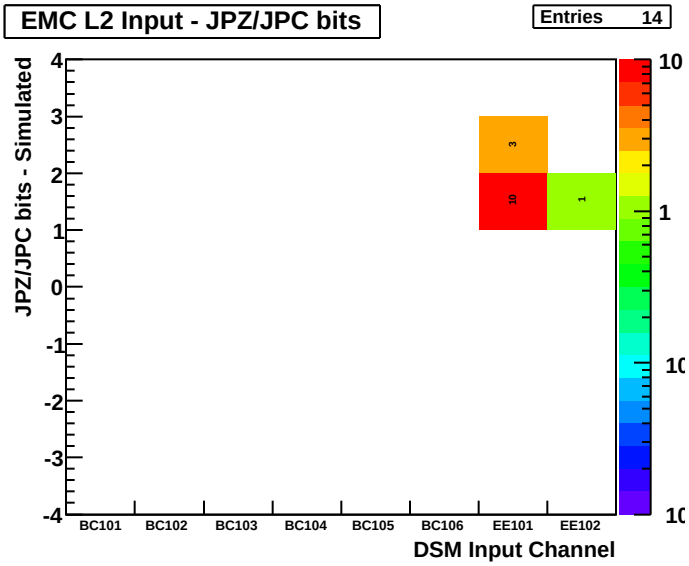

EMC L2 Input - JPX/JPA bits
Entries 4800000
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
600000 600000 600000 600000 600000 600000 1 1
221 1
22067 5
577711 599993

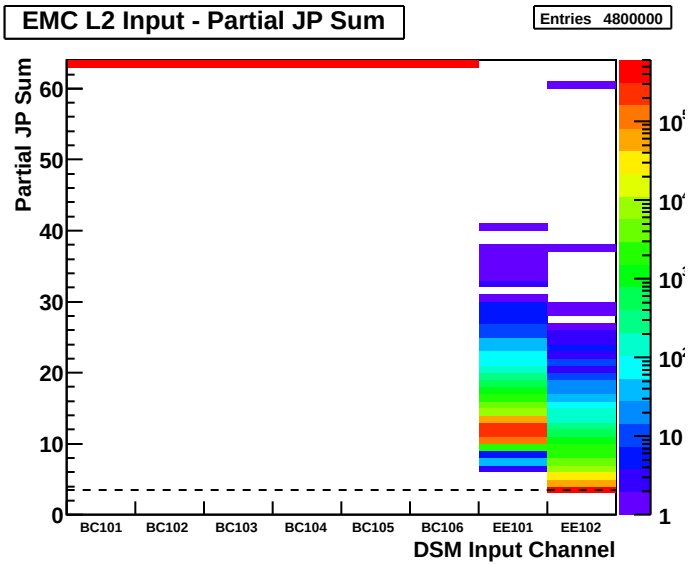

EMC L2 Input - JPX/JPA bits
Entries 24339
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
1 1
219 1
21804 5
2308

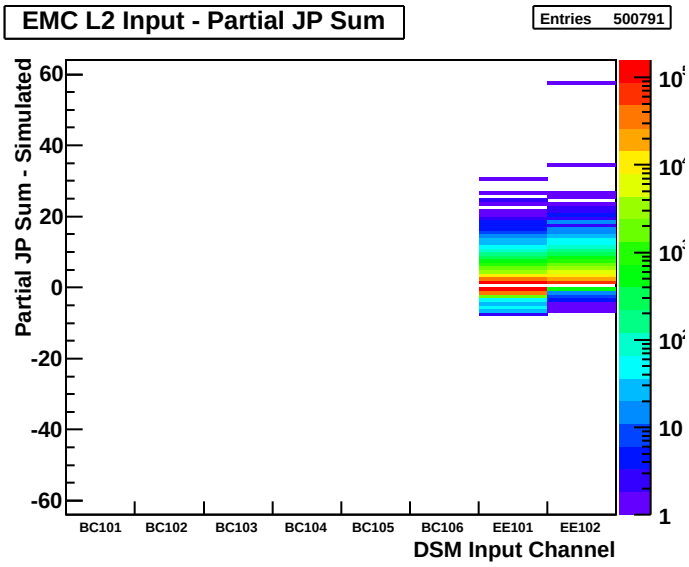

EMC L2 Input - JPY/JPB bits
Entries 4800000
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
600000 600000 600000 600000 600000 600000
2 1
4 3
599994 599996

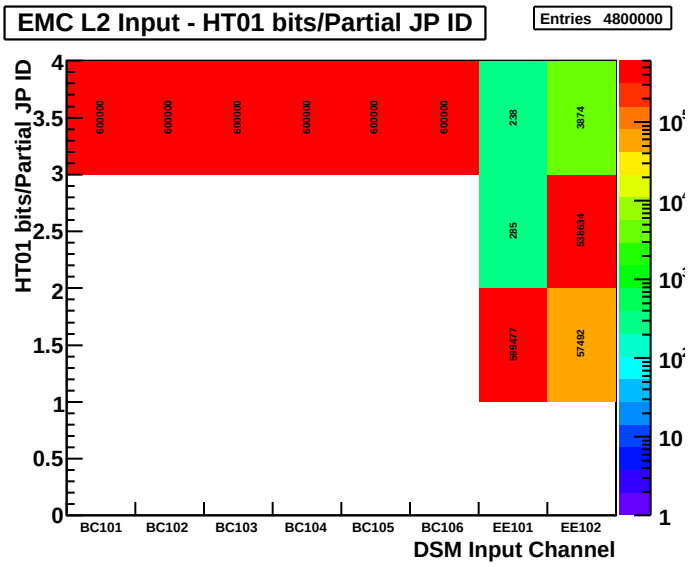

EMC L2 Input - JPY/JPB bits
Entries 10
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
2 1
4 3

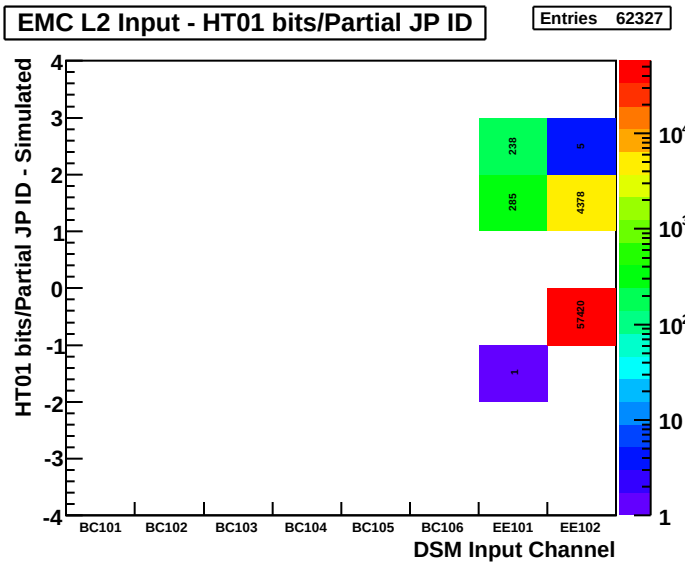

EMC L2 Input - JPZ/JPC bits
Entries 4800000
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
600000 600000 600000 600000 600000 600000
3
10 1
599987 599999

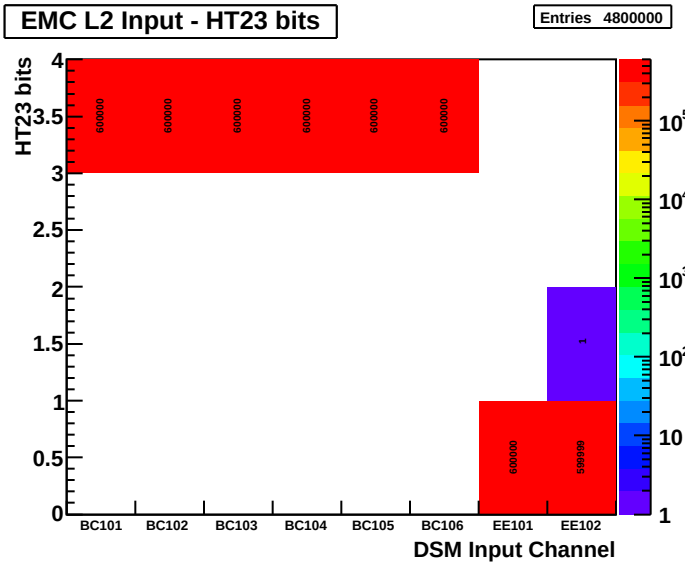

EMC L2 Input - JPZ/JPC bits
Entries 14
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
3
10 1

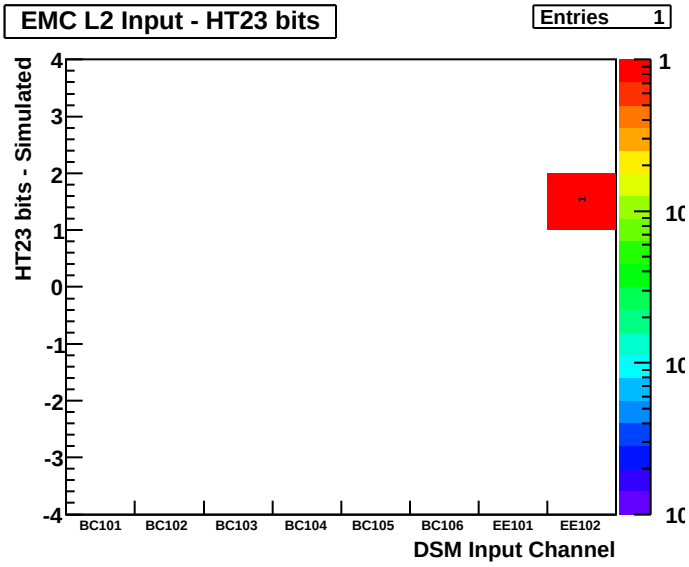

EMC L2 Input - Partial JP Sum
Entries 4800000
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

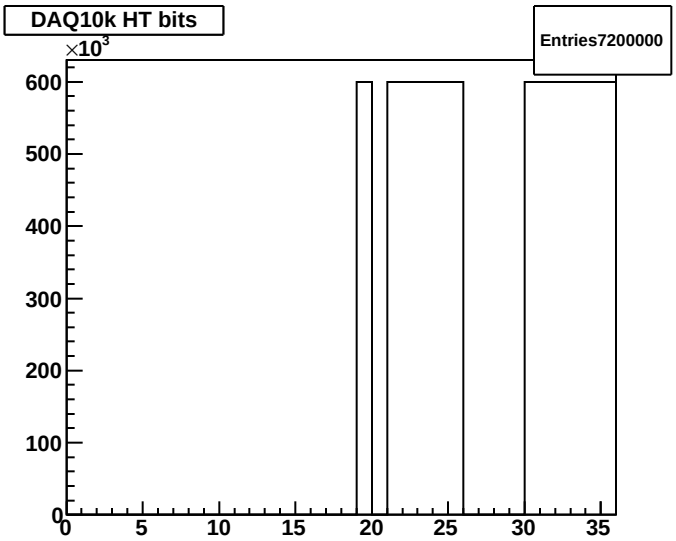

EMC L2 Input - Partial JP Sum
Entries 500791
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

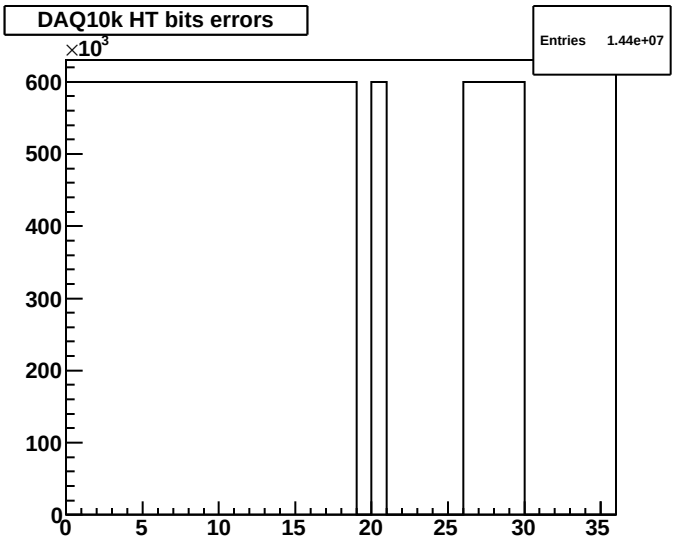

EMC L2 Input - HT01 bits/Partial JP ID
Entries 4800000
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

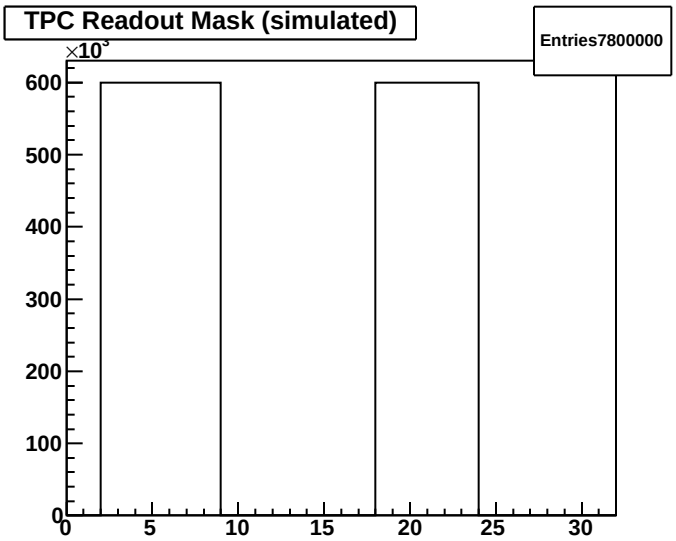

EMC L2 Input - HT01 bits/Partial JP ID
Entries 62327
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

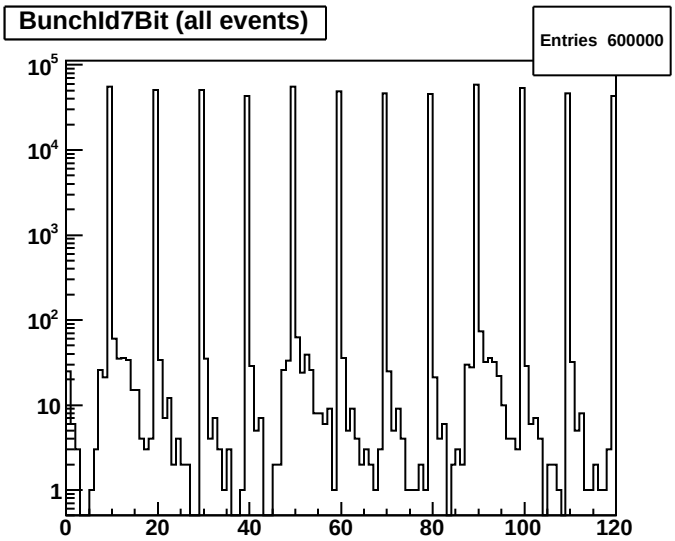

EMC L2 Input - HT23 bits
Entries 4800000
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

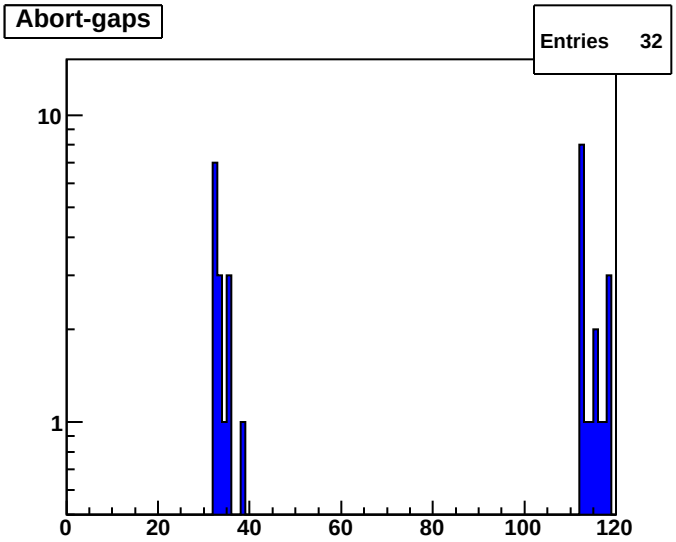

EMC L2 Input - HT23 bits
Entries 1
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

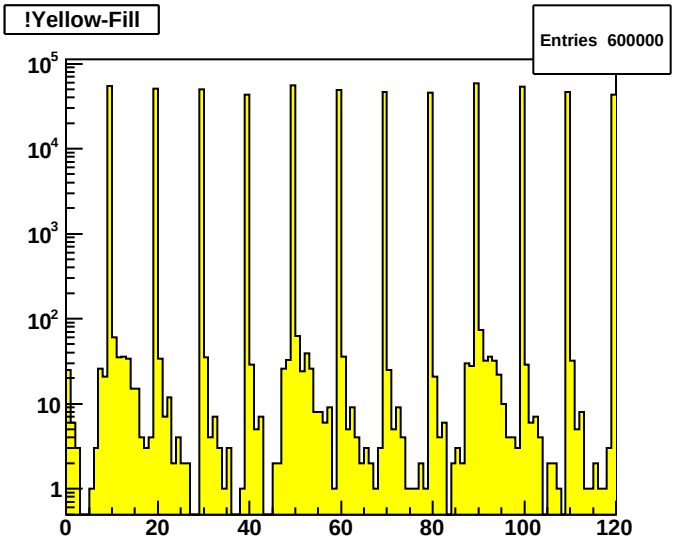

DAQ10k HT bits
Entries7200000
×10^3
600
500
400
300
200
100
0
0 5 10 15 20 25 30 35

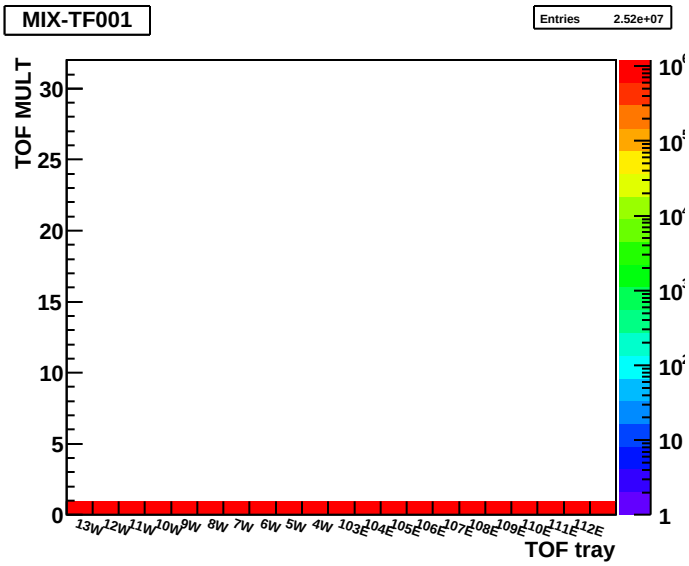

DAQ10k HT bits errors
Entries 1.44e+07
×10^3
600
500
400
300
200
100
0
0 5 10 15 20 25 30 35

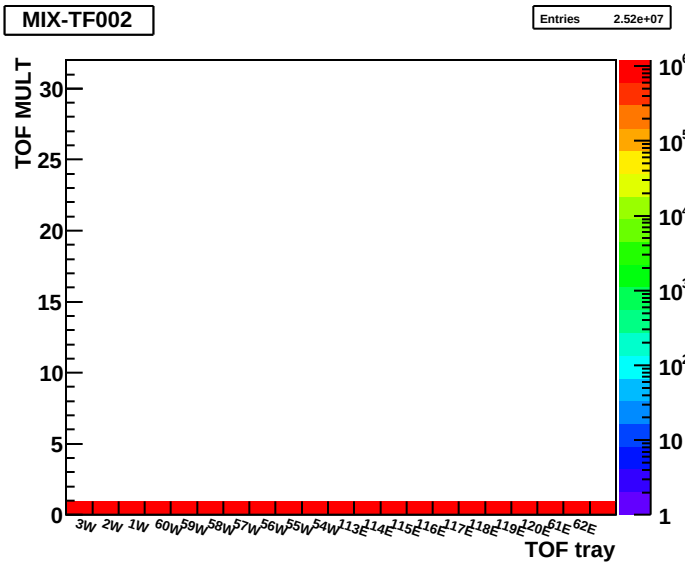

TPC Readout Mask (simulated)
Entries7800000
×10^3
600
500
400
300
200
100
0
0 5 10 15 20 25 30

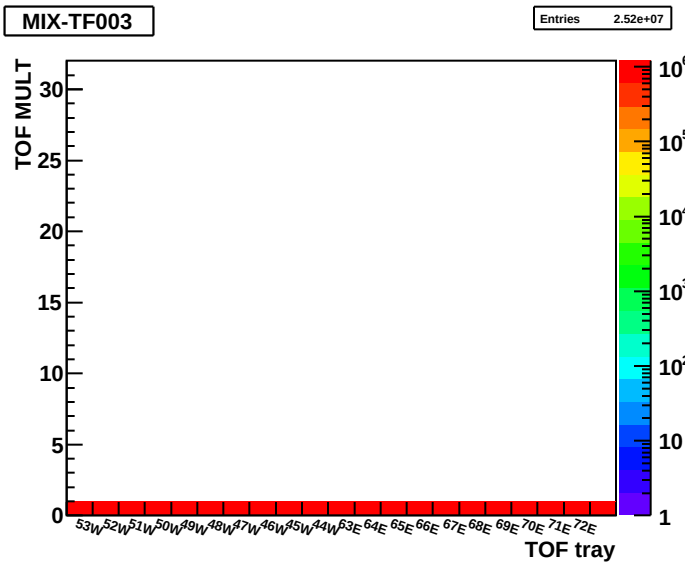

BunchId7Bit (all events)
Entries 600000
10^5
10^4
10^3
10^2
10
1
0 20 40 60 80 100 120

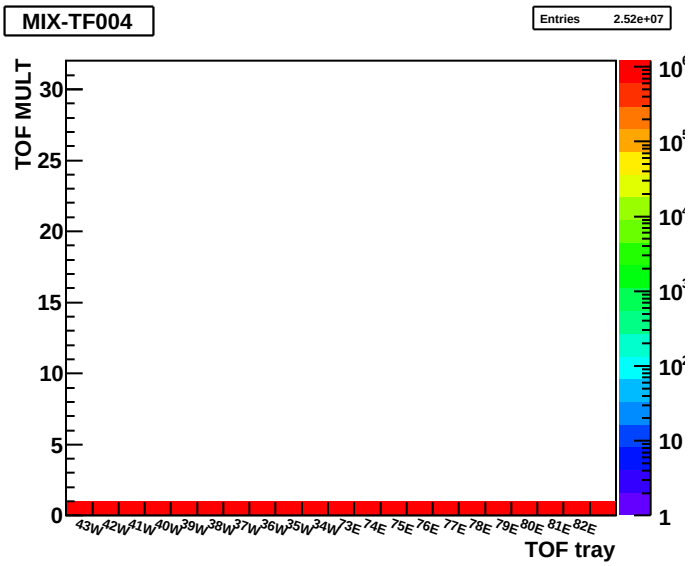

Abort-gaps
Entries 32
10
1
0 20 40 60 80 100 120

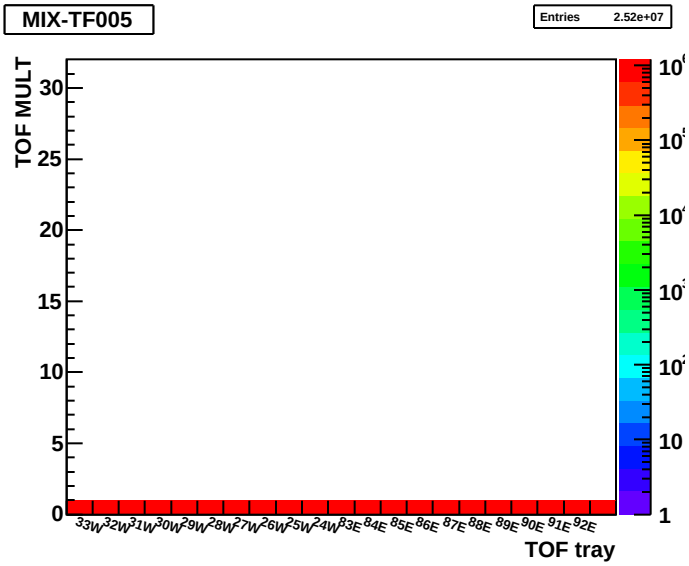

!Yellow-Fill
Entries 600000
10^5
10^4
10^3
10^2
10
1
0 20 40 60 80 100 120

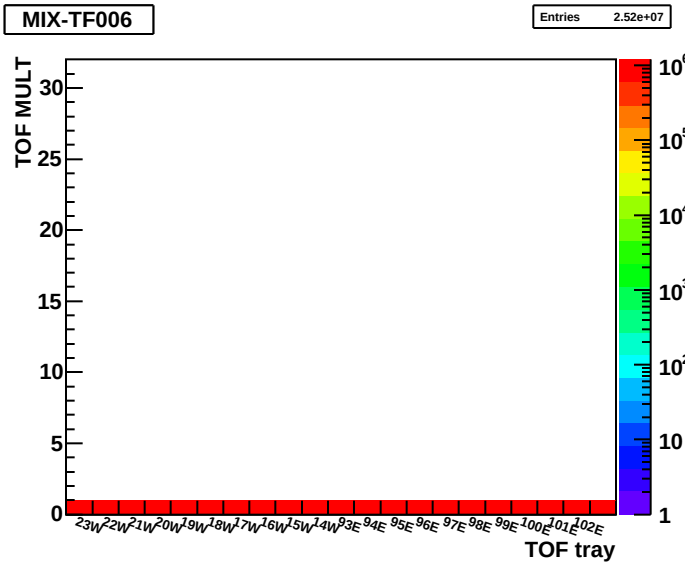

MIX-TF001
Entries 2.52e+07
TOF MULT
TOF tray

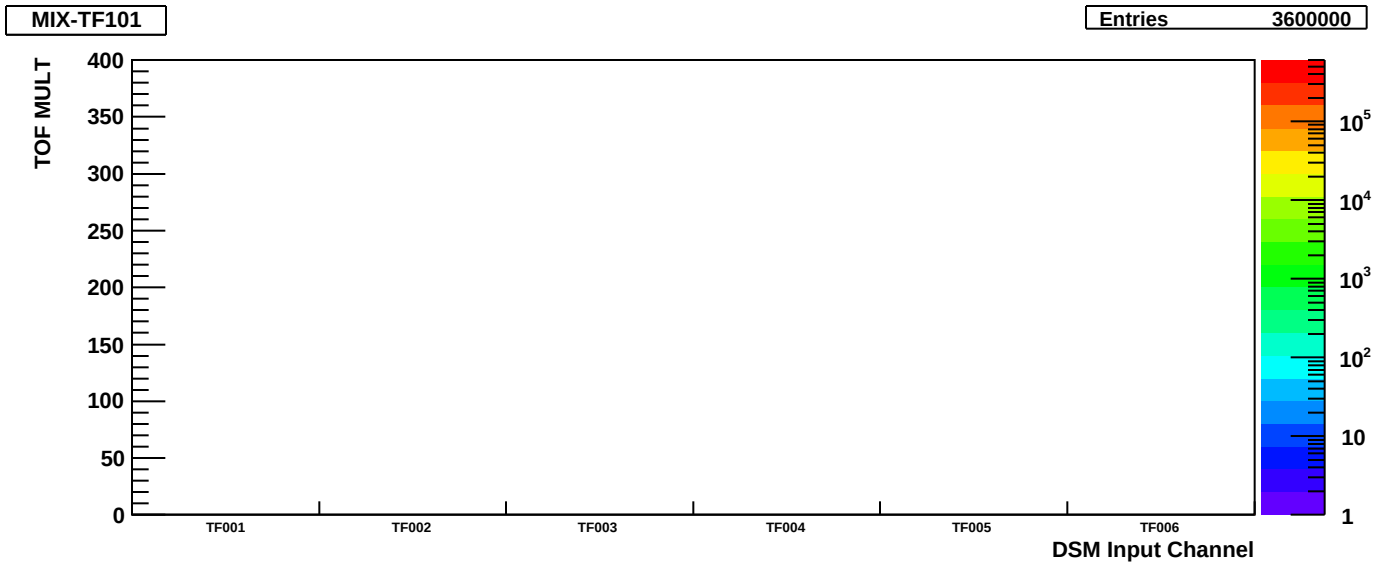

MIX-TF002
Entries 2.52e+07
TOF MULT
TOF tray

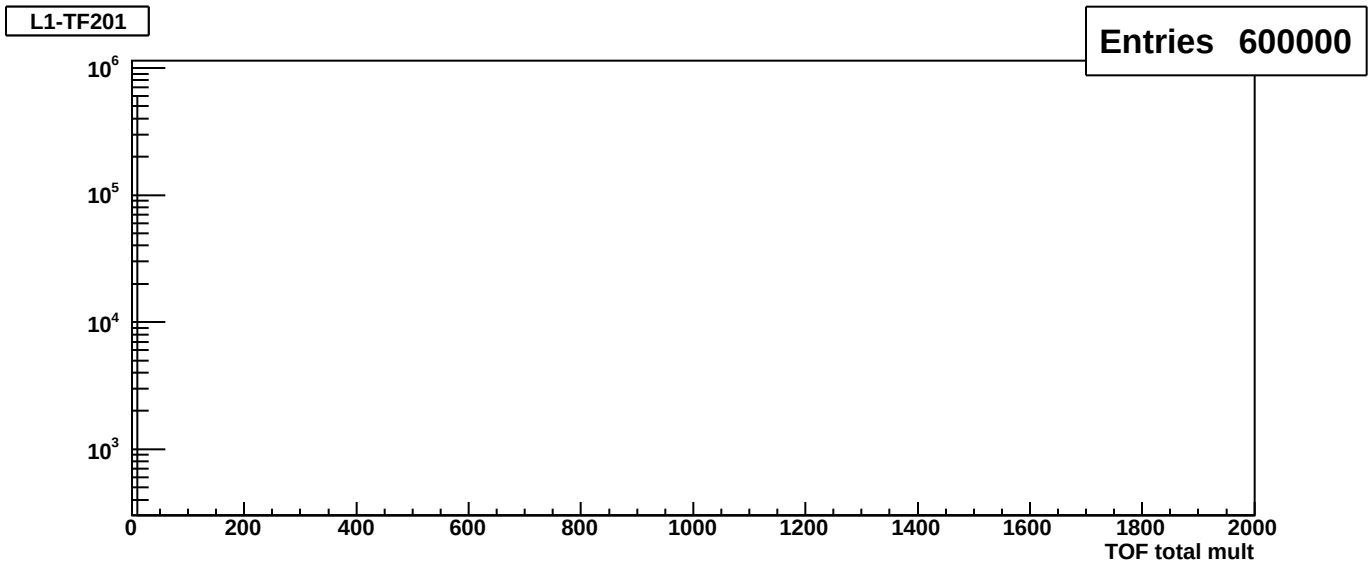

MIX-TF003
Entries 2.52e+07
TOF MULT
TOF tray

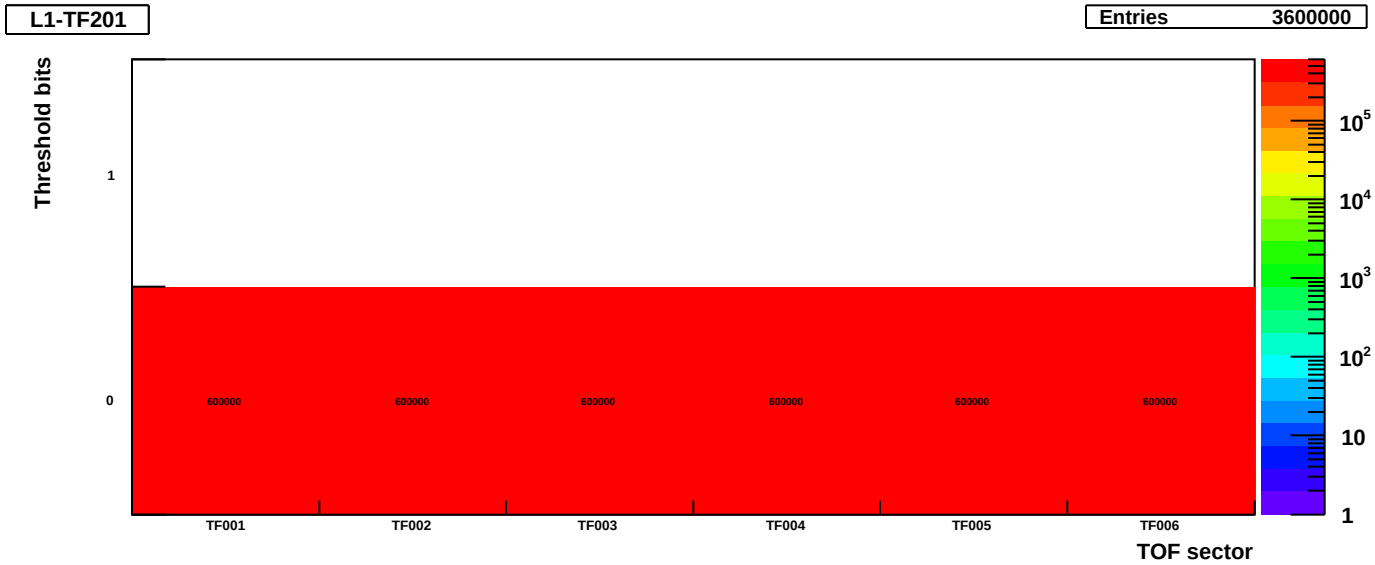

MIX-TF004
Entries 2.52e+07
TOF MULT
TOF tray

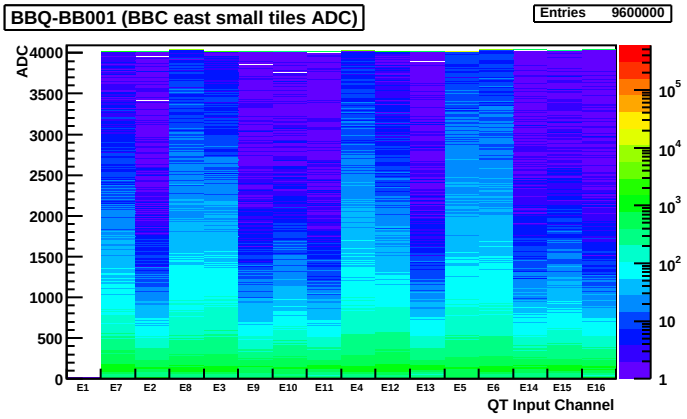

MIX-TF005
Entries 2.52e+07
TOF MULT
TOF tray

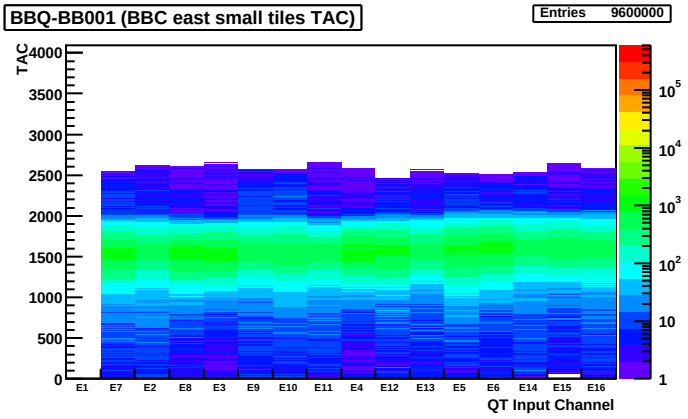

MIX-TF006
Entries 2.52e+07
TOF MULT
TOF tray

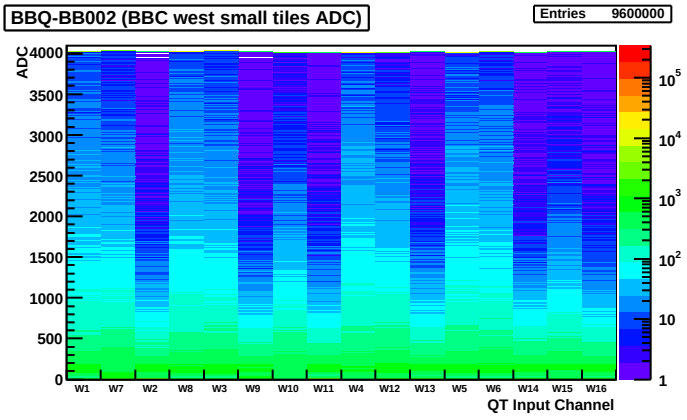

MIX-TF101
Entries 3600000
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^5
10^4
10^3
10^2
10
1

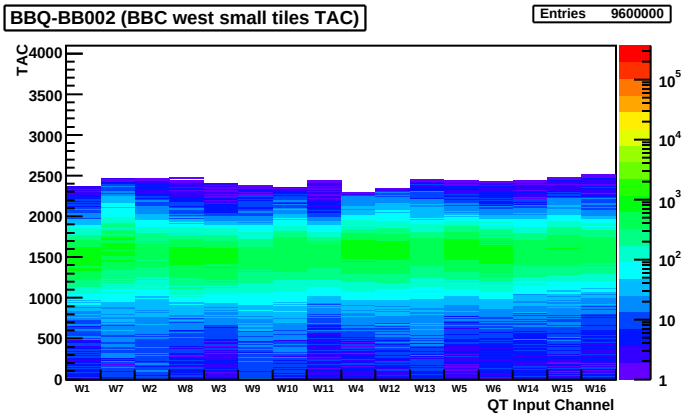

L1-TF201
Entries 600000
10^6
10^5
10^4
10^3
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

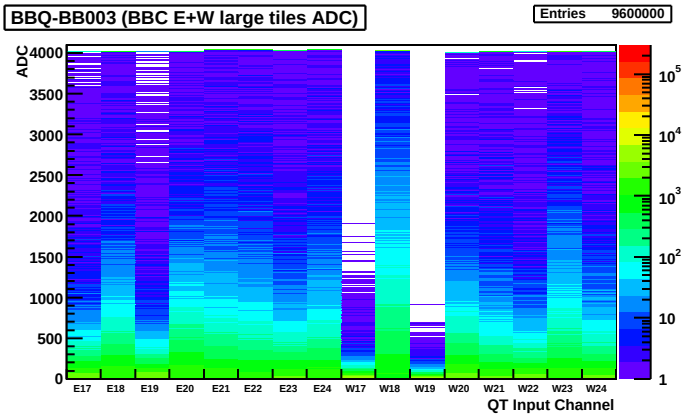

L1-TF201
Entries 3600000
Threshold bits
1
0
600000
600000
600000
600000
600000
600000
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^5
10^4
10^3
10^2
10
1

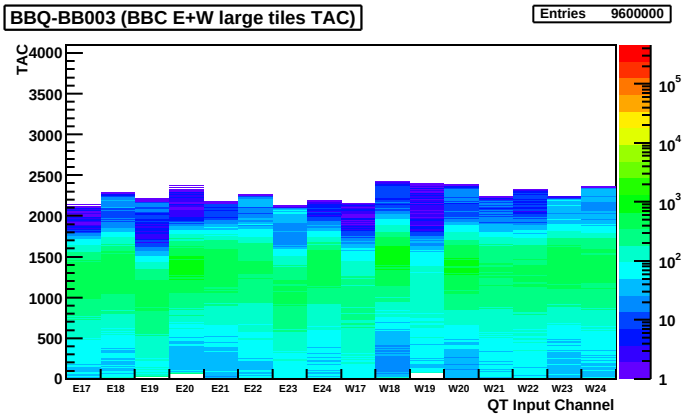

BBQ-BB001 (BBC east small tiles ADC)
Entries 9600000
ADC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

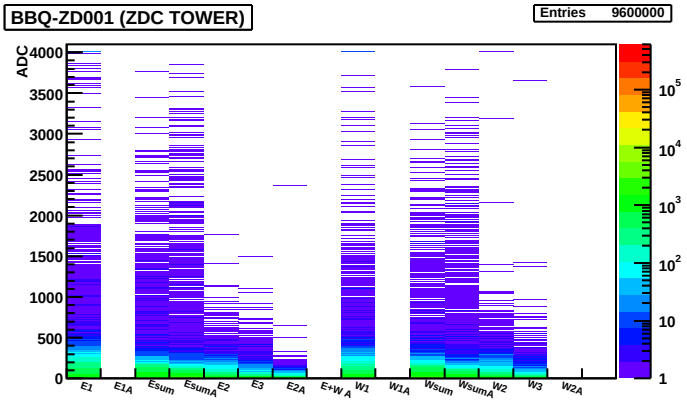

BBQ-BB001 (BBC east small tiles TAC)
Entries 9600000
TAC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

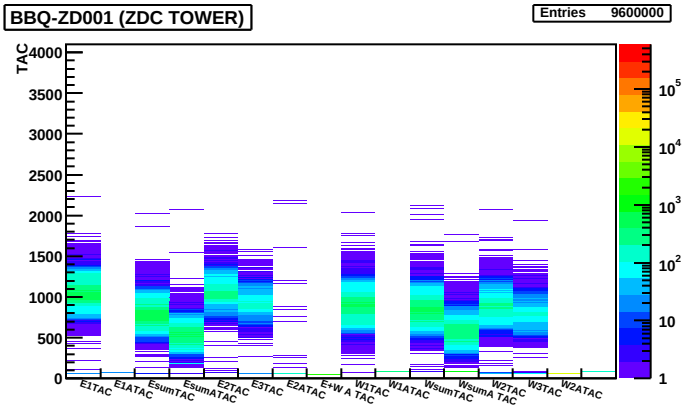

BBQ-BB002 (BBC west small tiles ADC)
Entries 9600000
ADC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

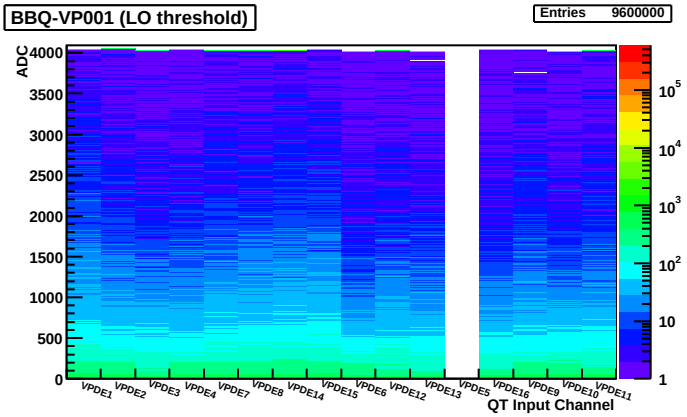

BBQ-BB002 (BBC west small tiles TAC)
Entries 9600000
TAC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

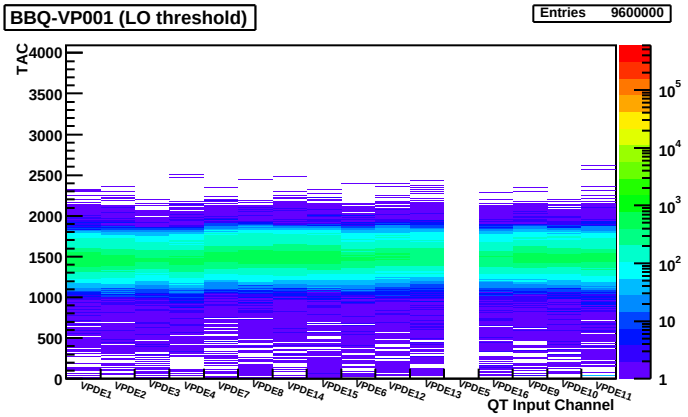

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 9600000
ADC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

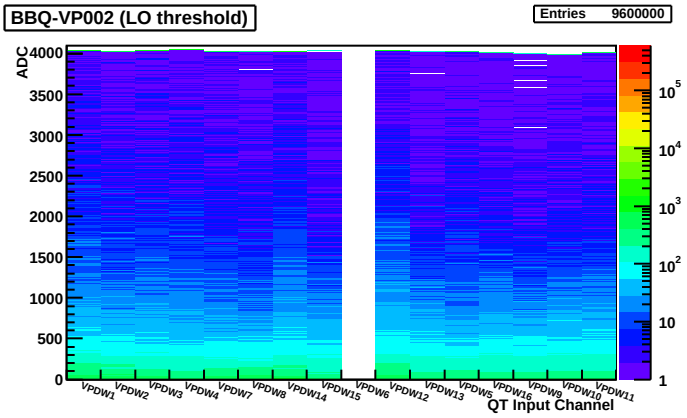

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 9600000
TAC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

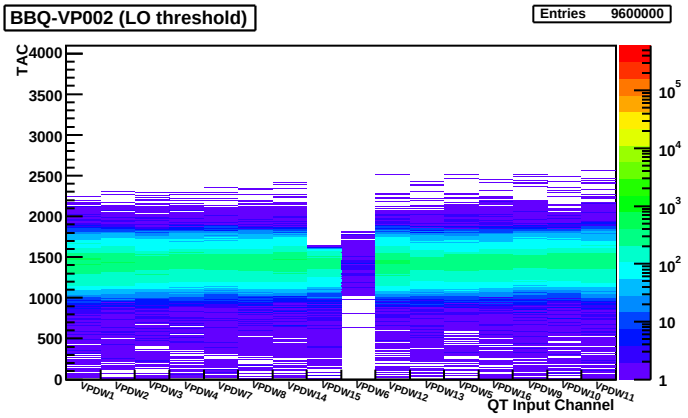

BBQ-ZD001 (ZDC TOWER)
Entries 9600000
ADC
E1 E1A Esum EsumA E2 E3 E2A E+W A W1 W1A Wsum WsumA W2 W3 W2A

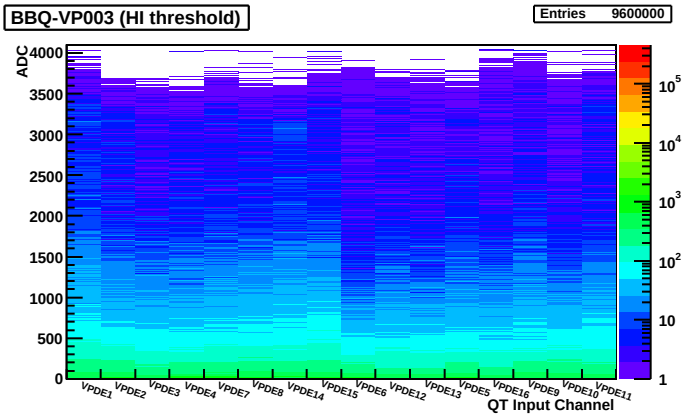

BBQ-ZD001 (ZDC TOWER)
Entries 9600000
TAC
E1TAC E1ATAC EsumTAC EsumATAC E2TAC E3TAC E2ATAC E+W A TAC W1TAC W1ATAC WsumTAC WsumA TAC W2TAC W3TAC W2ATAC

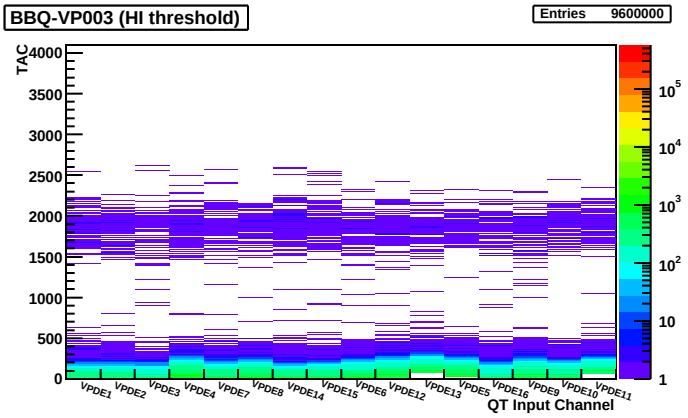

BBQ-VP001 (LO threshold)
Entries 9600000
ADC
QT Input Channel

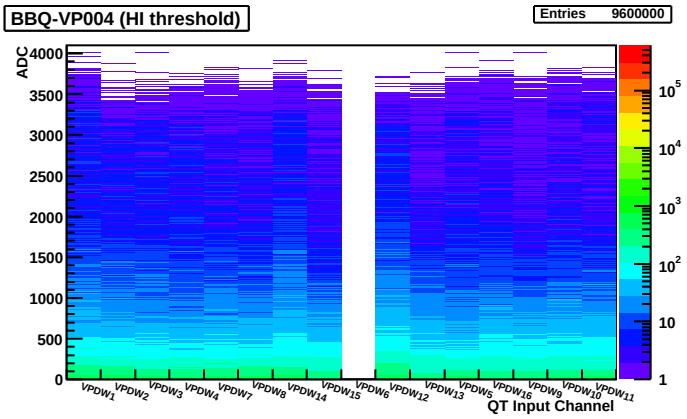

BBQ-VP001 (LO threshold)
Entries 9600000
TAC
QT Input Channel

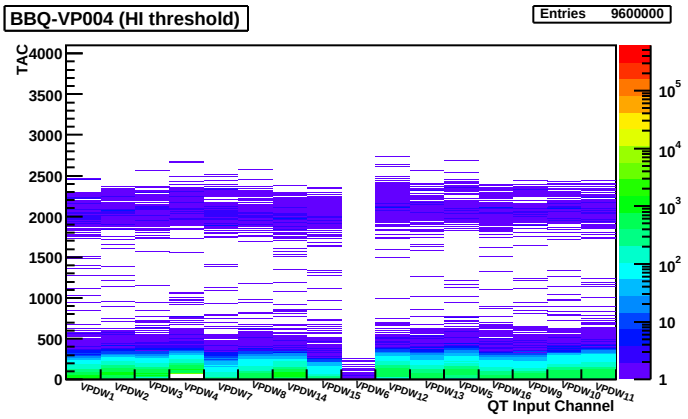

BBQ-VP002 (LO threshold)
Entries 9600000
ADC
QT Input Channel

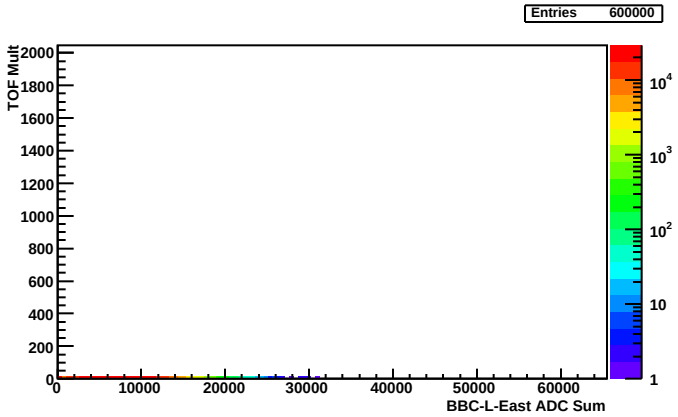

BBQ-VP002 (LO threshold)
Entries 9600000
TAC
QT Input Channel

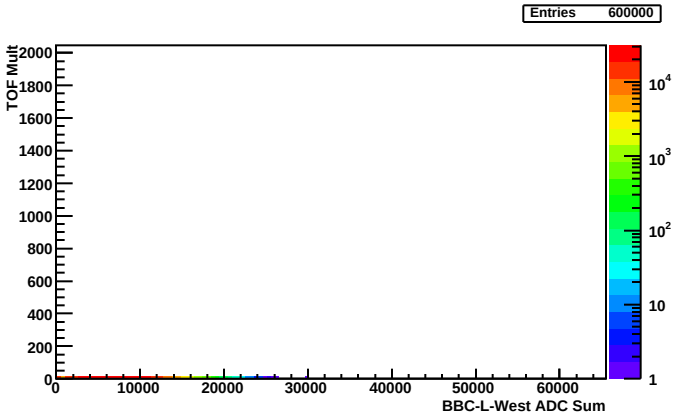

BBQ-VP003 (HI threshold)
Entries 9600000
ADC
QT Input Channel

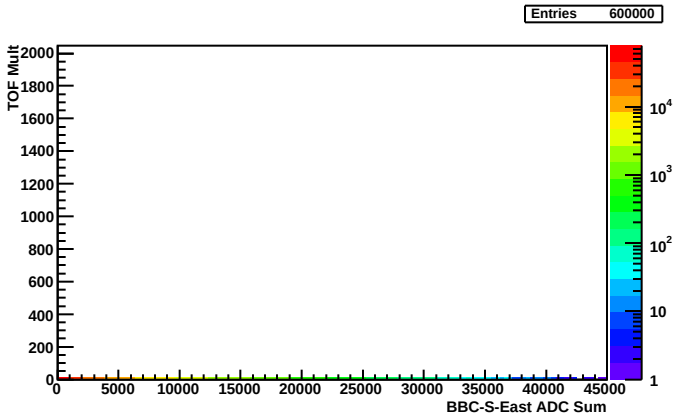

BBQ-VP003 (HI threshold)
Entries 9600000
TAC
QT Input Channel

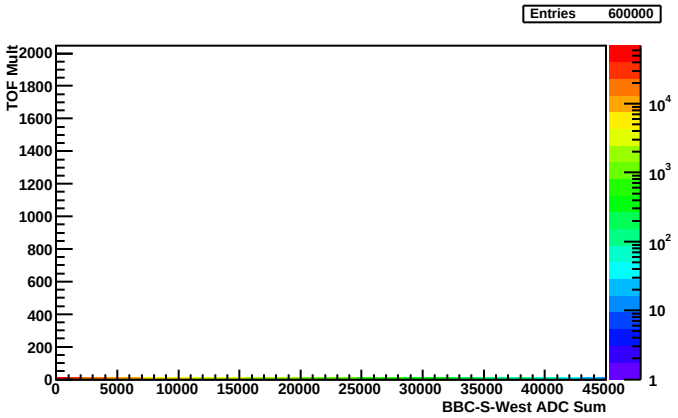

BBQ-VP004 (HI threshold)
Entries 9600000
ADC
QT Input Channel

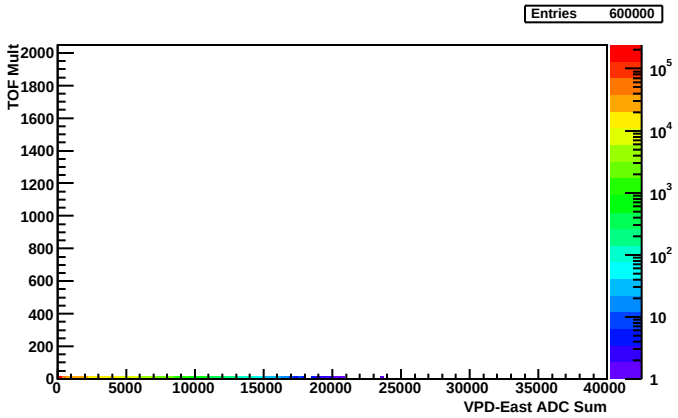

BBQ-VP004 (HI threshold)
Entries 9600000
TAC
QT Input Channel

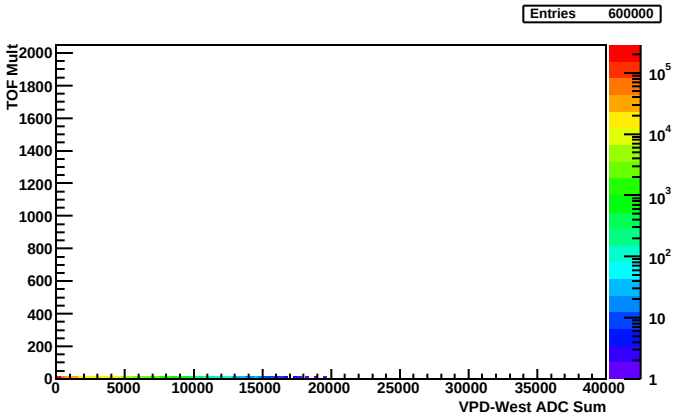

Entries 600000
TOF Mult
BBC-L-East ADC Sum

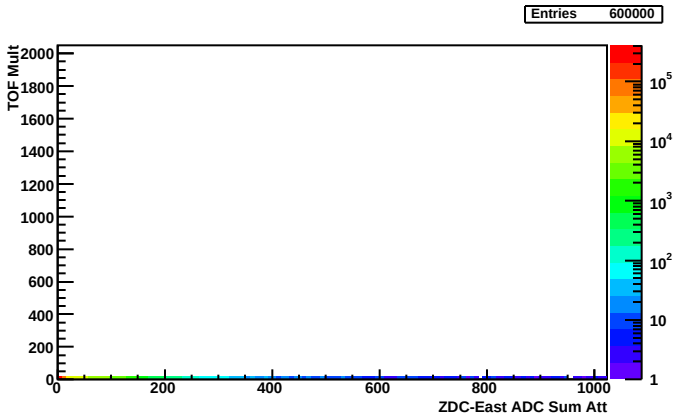

Entries 600000
TOF Mult
BBC-L-West ADC Sum

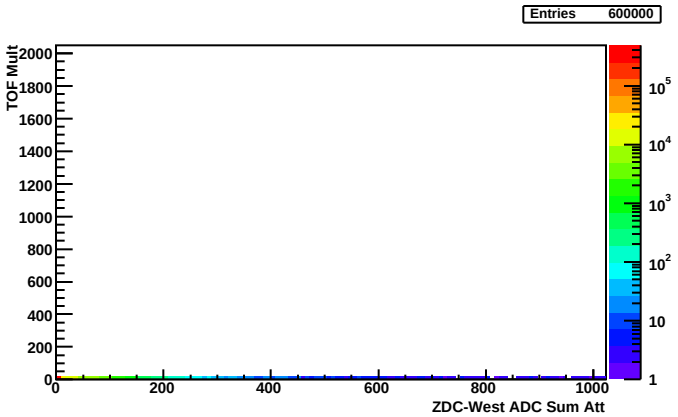

Entries 600000
TOF Mult
BBC-S-East ADC Sum

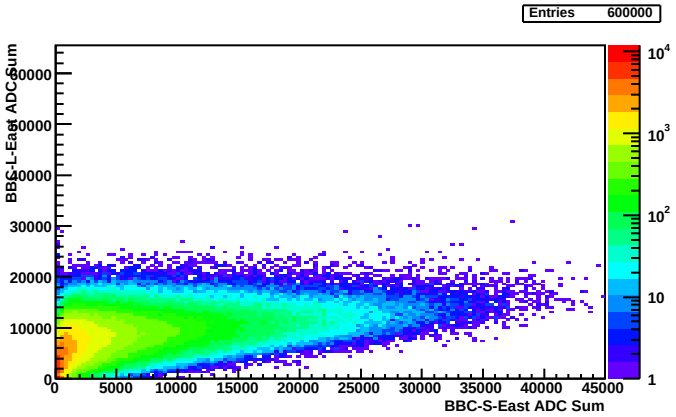

Entries 600000
TOF Mult
BBC-S-West ADC Sum

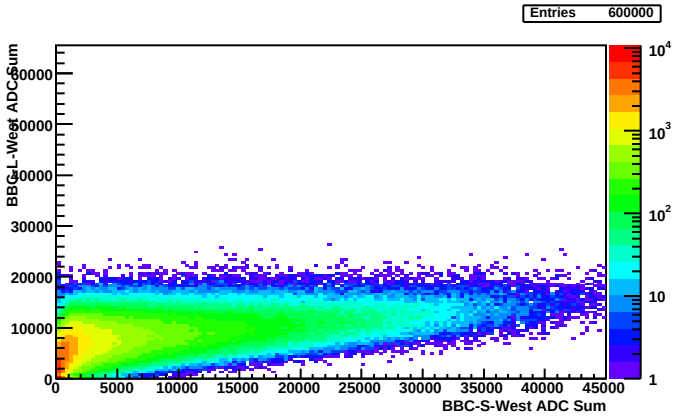

Entries 600000
TOF Mult
VPD-East ADC Sum

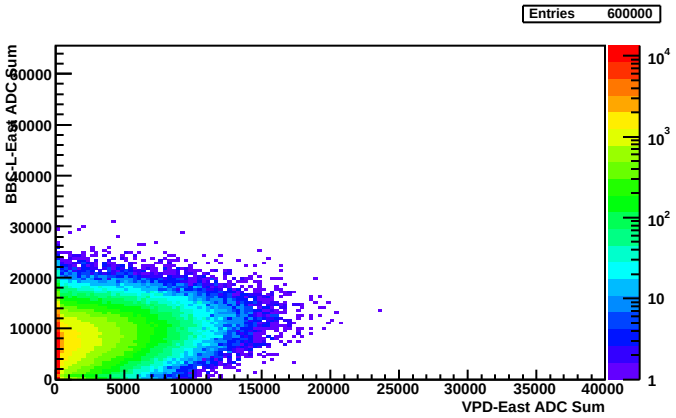

Entries 600000
TOF Mult
VPD-West ADC Sum

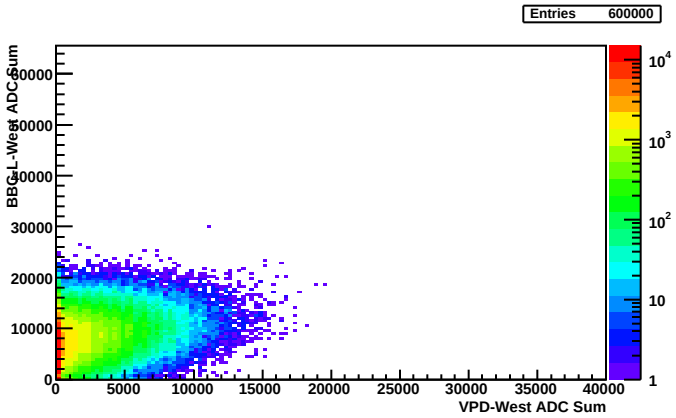

Entries 600000
TOF Mult
ZDC-East ADC Sum Att

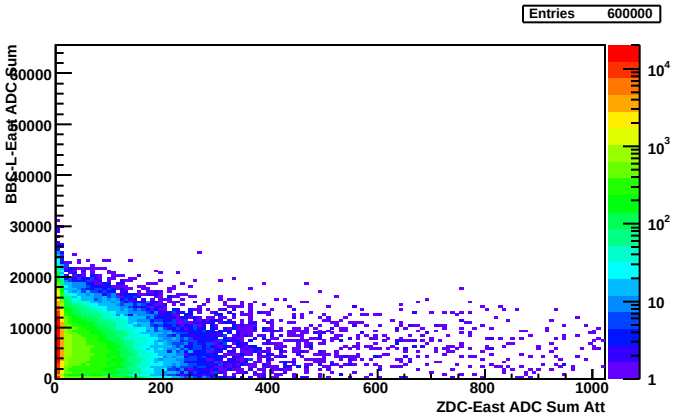

Entries 600000
TOF Mult
ZDC-West ADC Sum Att

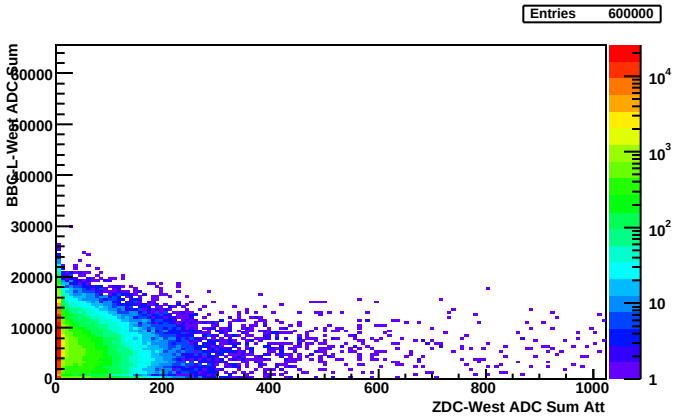

Entries 600000
BBC-L-East ADC Sum
BBC-S-East ADC Sum

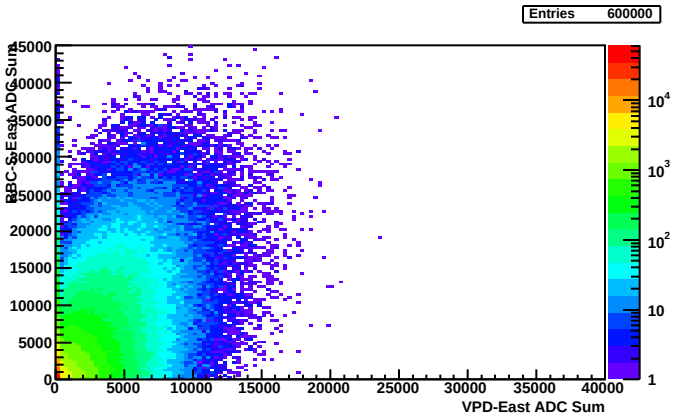

Entries 600000
BBC-L-West ADC Sum
BBC-S-West ADC Sum

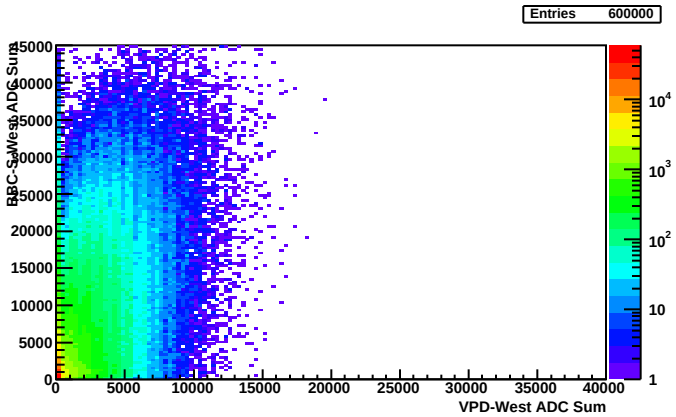

Entries 600000
BBC-L-East ADC Sum
VPD-East ADC Sum

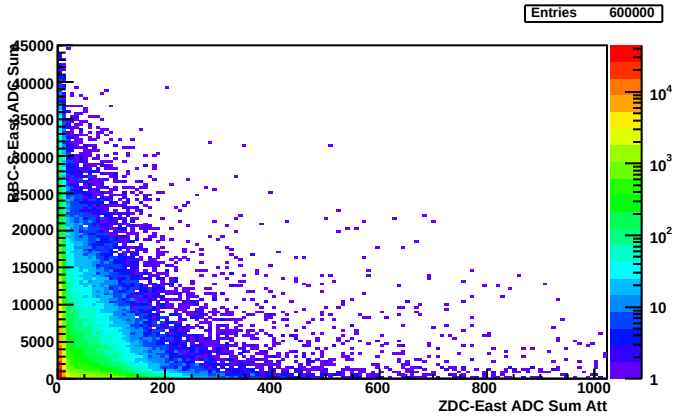

Entries 600000
BBC-L-West ADC Sum
VPD-West ADC Sum

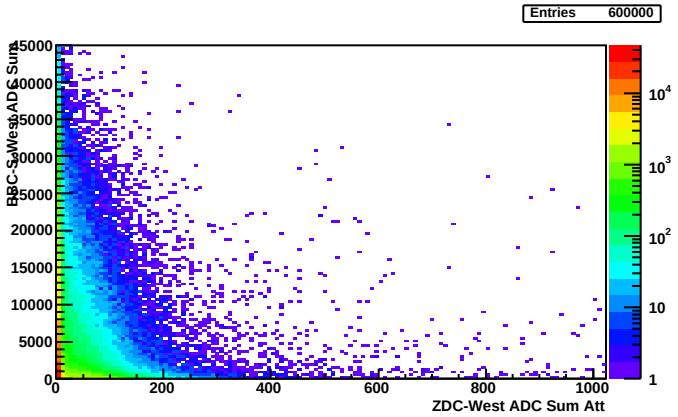

Entries 600000
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

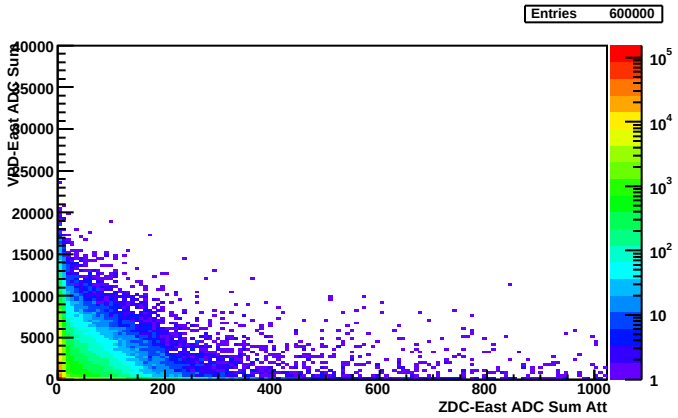

Entries 600000
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

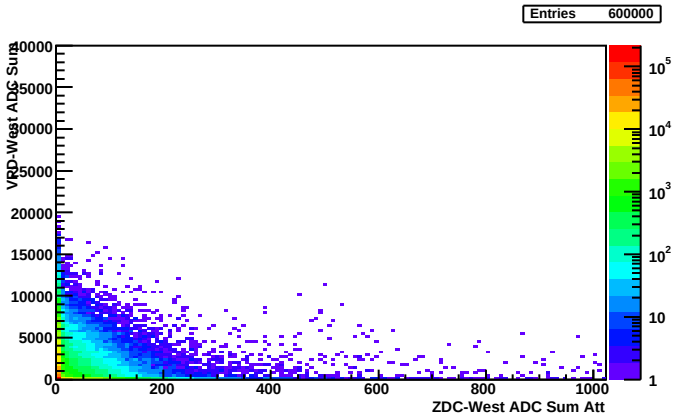

Entries 600000
BBC-S-East ADC Sum
VPD-East ADC Sum

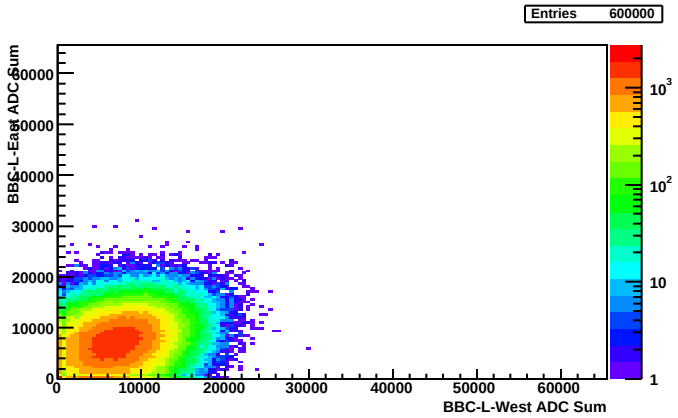

Entries 600000
BBC-S-West ADC Sum
VPD-West ADC Sum

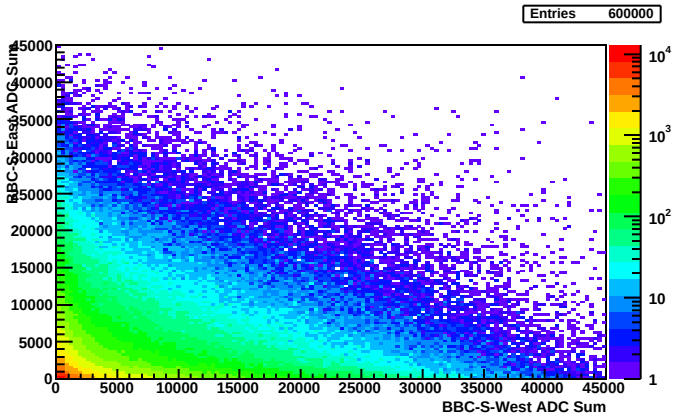

Entries 600000
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

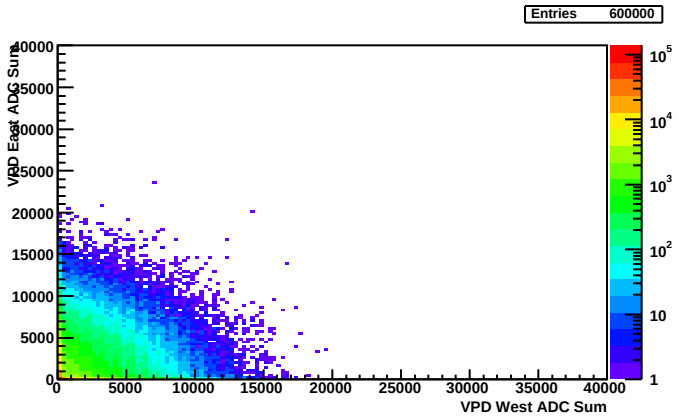

Entries 600000
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

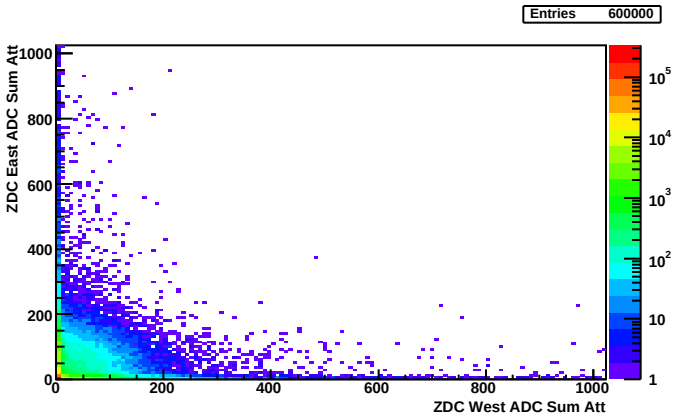

Entries 600000
VPD-East ADC Sum
ZDC-East ADC Sum Att

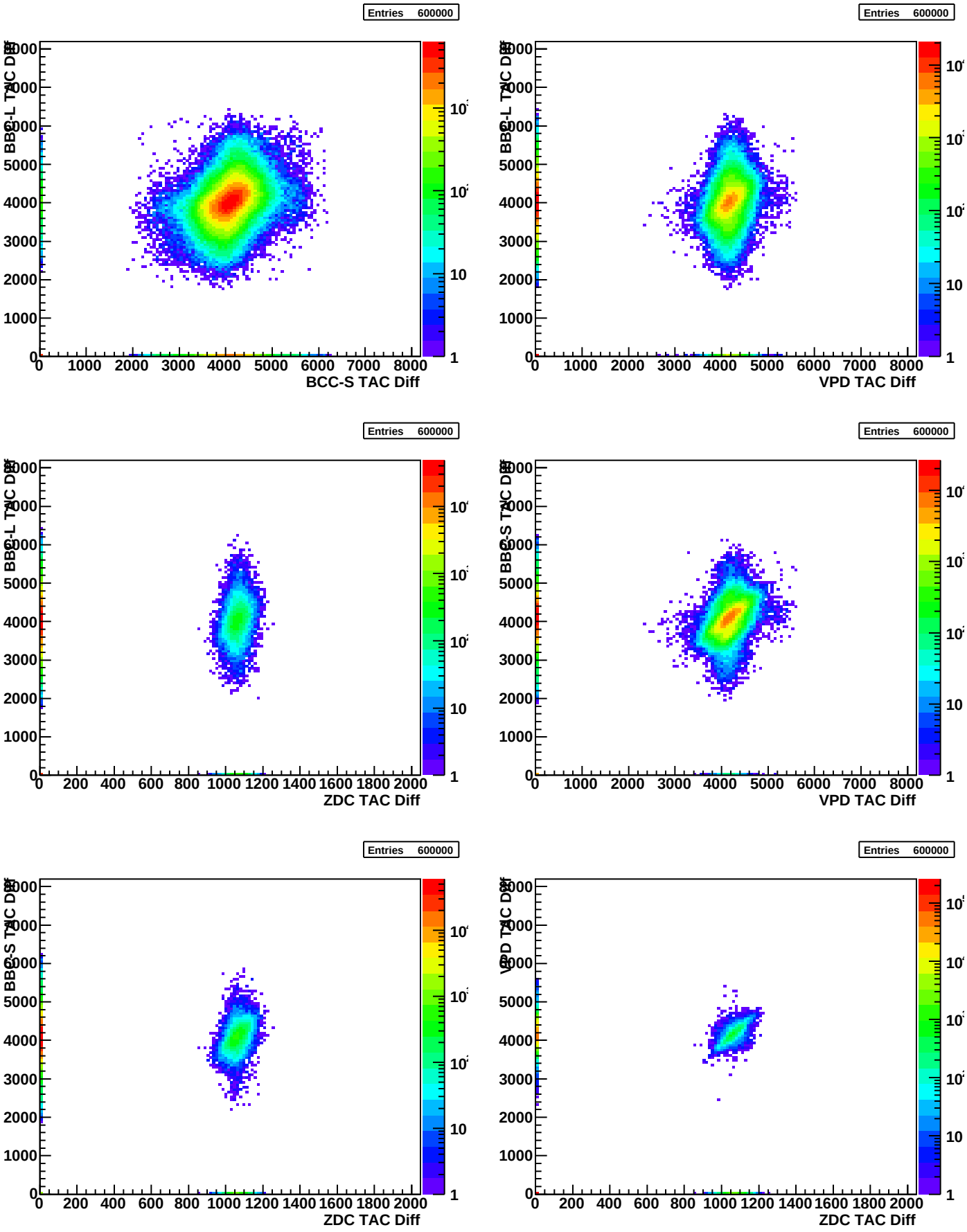

Entries 600000
VPD-West ADC Sum
ZDC-West ADC Sum Att

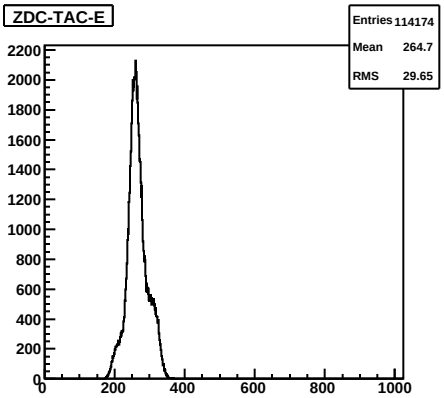

Entries 600000
BBC-L-East ADC Sum
BBC-L-West ADC Sum

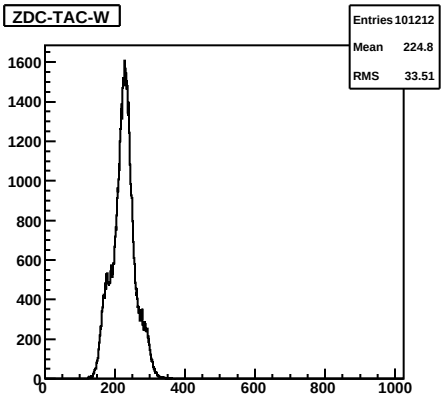

Entries 600000
BBC-S-East ADC Sum
BBC-S-West ADC Sum

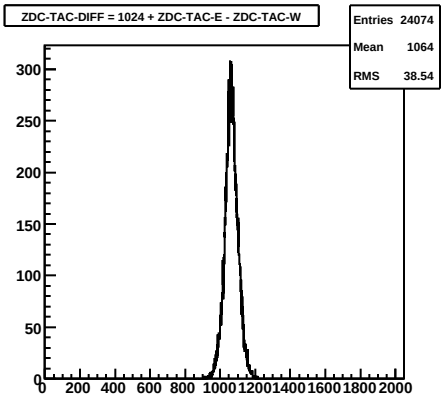

Entries 600000
VPD East ADC Sum
VPD West ADC Sum

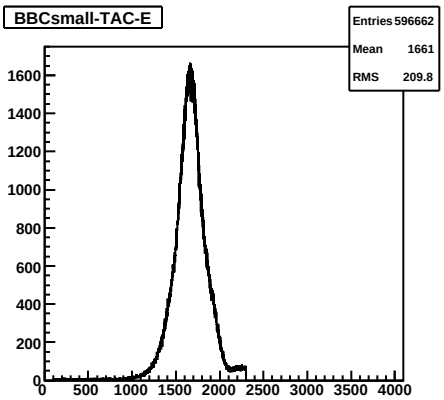

Entries 600000
ZDC East ADC Sum Att
ZDC West ADC Sum Att

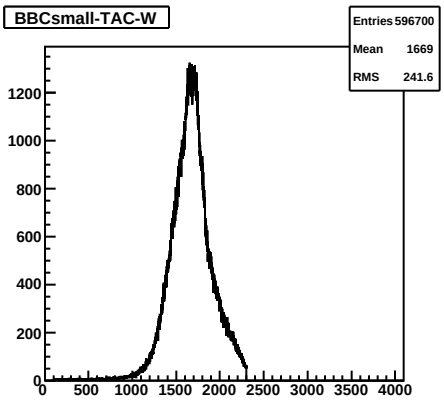

Entries 600000
BBC-L TAC Diff
BCC-S TAC Diff
Entries 600000
BBC-L TAC Diff
VPD TAC Diff
Entries 600000
BBC-L TAC Diff
ZDC TAC Diff
Entries 600000
BBC-S TAC Diff
VPD TAC Diff
Entries 600000
BBC-S TAC Diff
ZDC TAC Diff
Entries 600000
VPD TAC Diff
ZDC TAC Diff

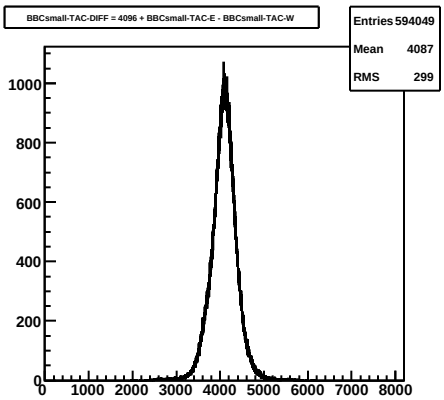

ZDC-TAC-E
Entries 114174
Mean 264.7
RMS 29.65

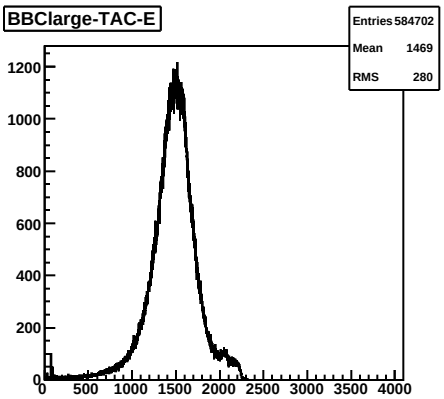

ZDC-TAC-W
Entries 101212
Mean 224.8
RMS 33.51

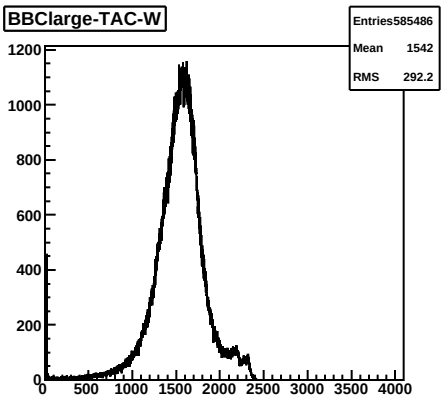

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 24074
Mean 1064
RMS 38.54

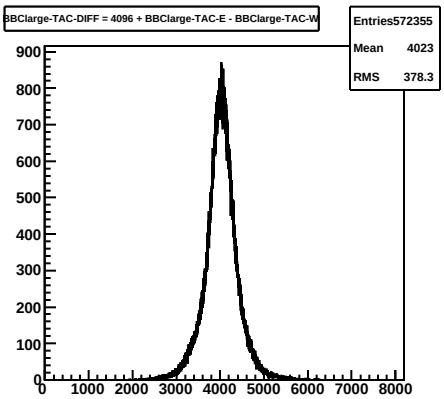

BBCsmall-TAC-E
Entries 596662
Mean 1661
RMS 209.8

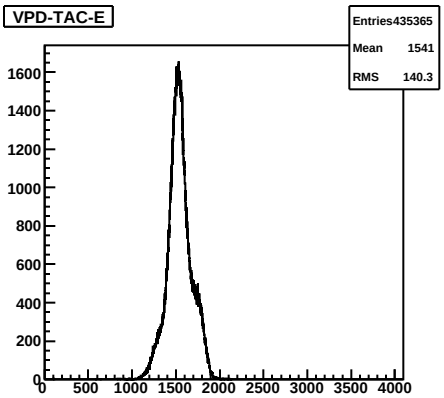

BBCsmall-TAC-W
Entries 596700
Mean 1669
RMS 241.6

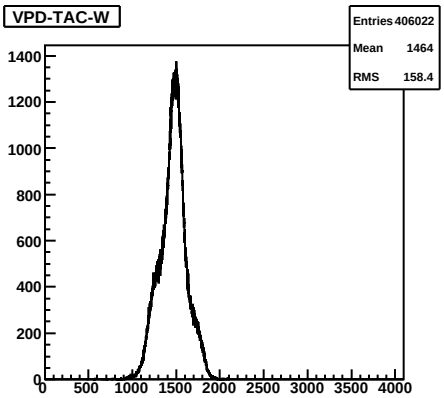

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 594049
Mean 4087
RMS 299

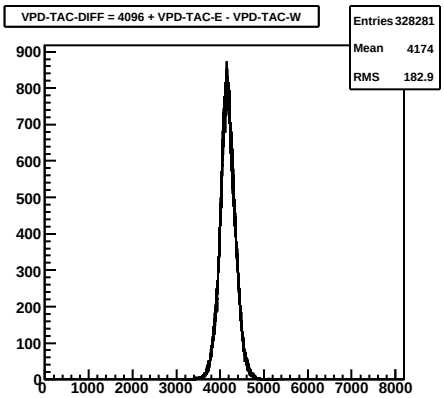

BBClarge-TAC-E
Entries 584702
Mean 1469
RMS 280

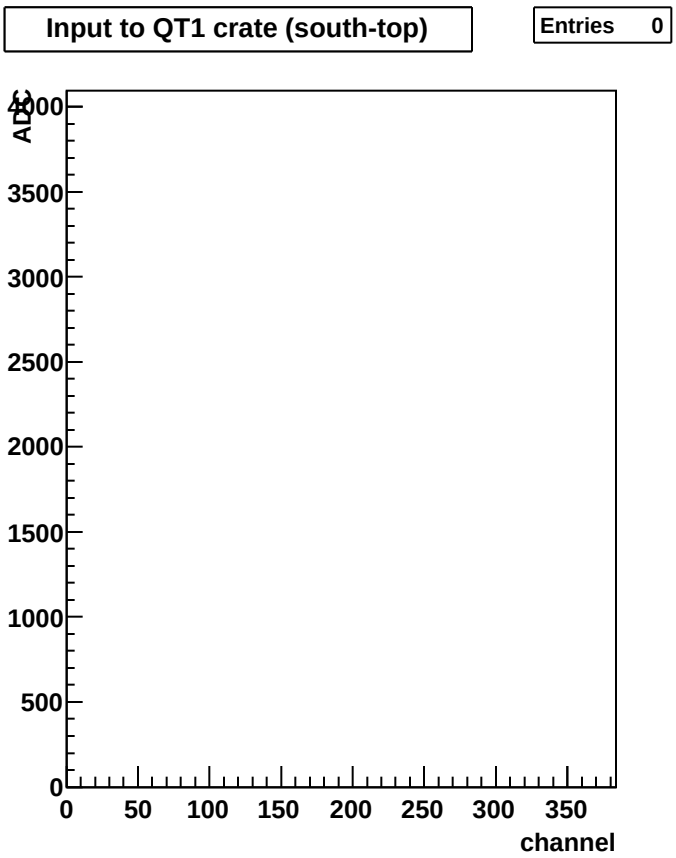

BBClarge-TAC-W
Entries 585486
Mean 1542
RMS 292.2

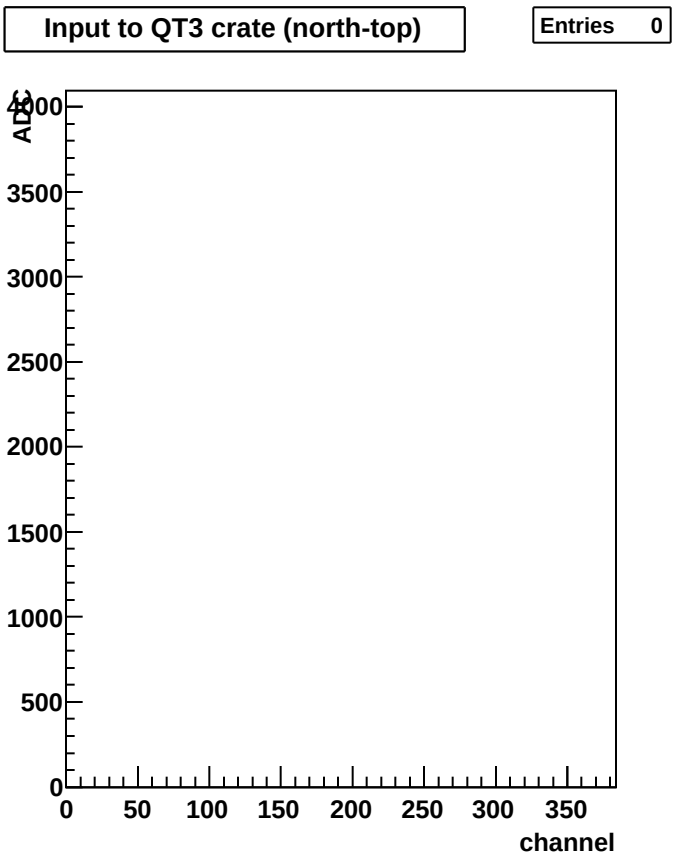

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 572355
Mean 4023
RMS 378.3

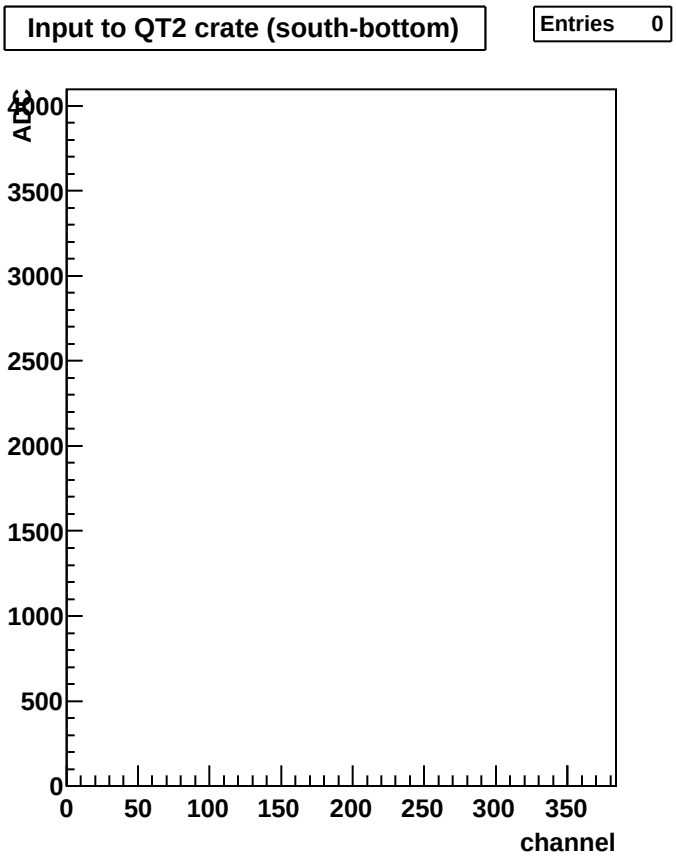

VPD-TAC-E
Entries 435365
Mean 1541
RMS 140.3

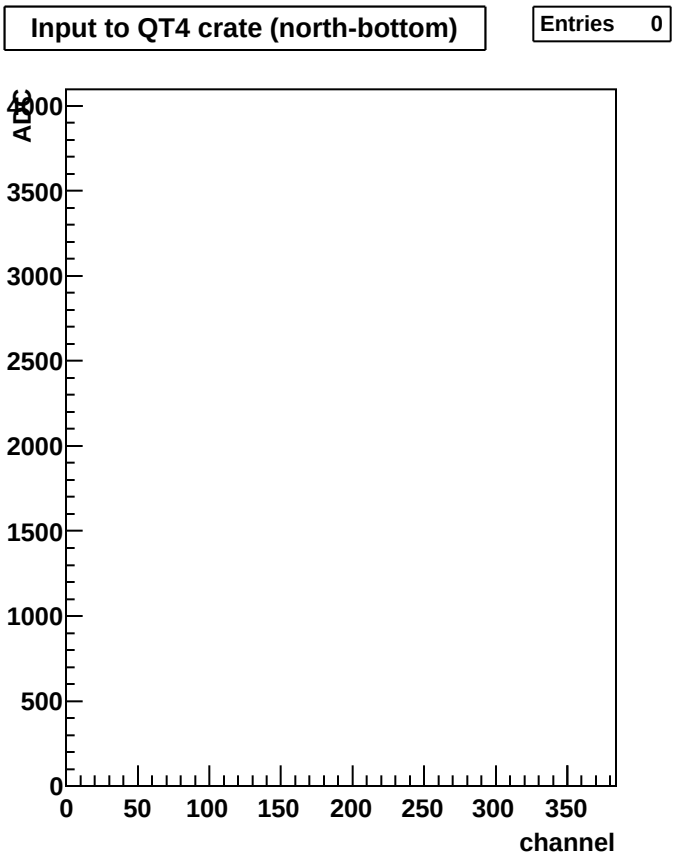

VPD-TAC-W
Entries 406022
Mean 1464
RMS 158.4

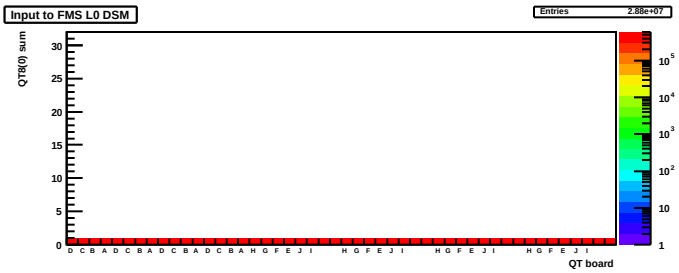

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 328281
Mean 4174
RMS 182.9

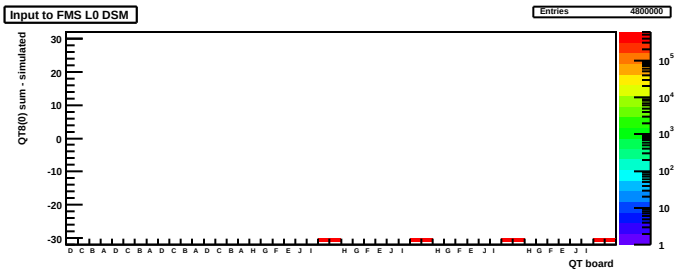

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

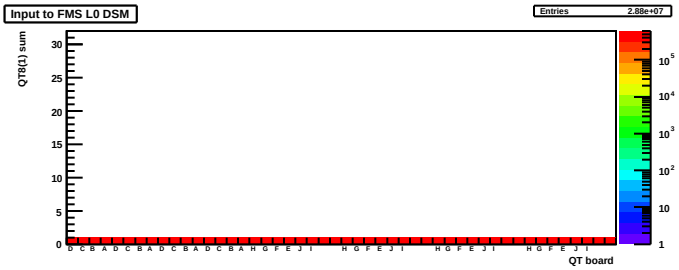

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

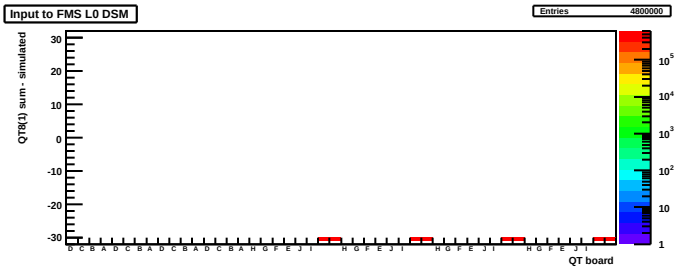

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

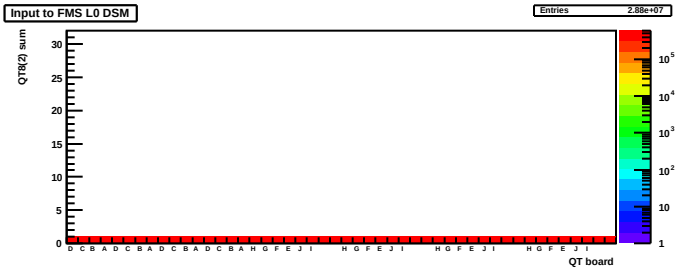

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

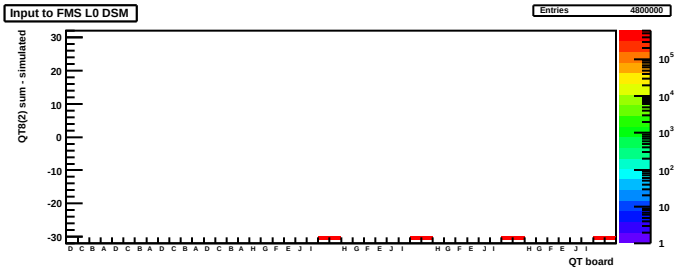

Input to FMS L0 DSM
Entries 2.88e+07
QT8(0) sum
QT board

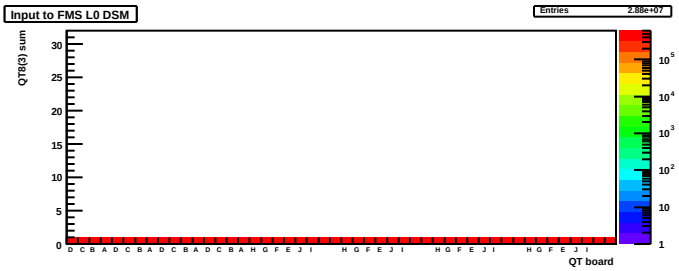

Input to FMS L0 DSM
Entries 4800000
QT8(0) sum - simulated
QT board

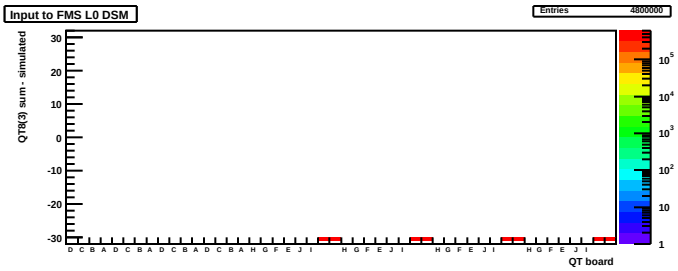

Input to FMS L0 DSM
Entries 2.88e+07
QT8(1) sum
QT board

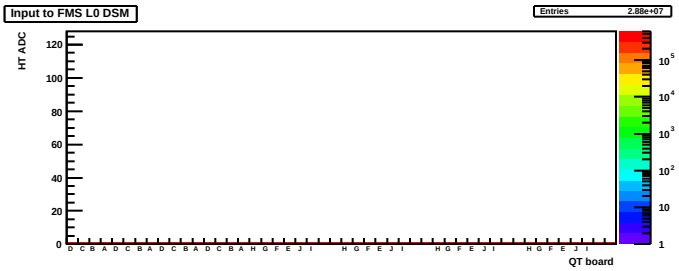

Input to FMS L0 DSM
Entries 4800000
QT8(1) sum - simulated
QT board

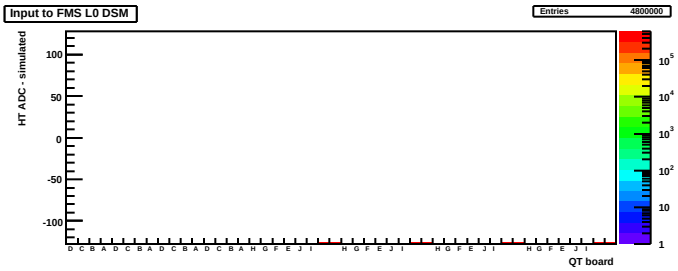

Input to FMS L0 DSM
Entries 2.88e+07
QT8(2) sum
QT board

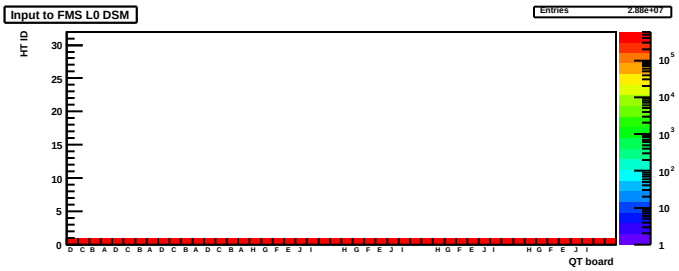

Input to FMS L0 DSM
Entries 4800000
QT8(2) sum - simulated
QT board

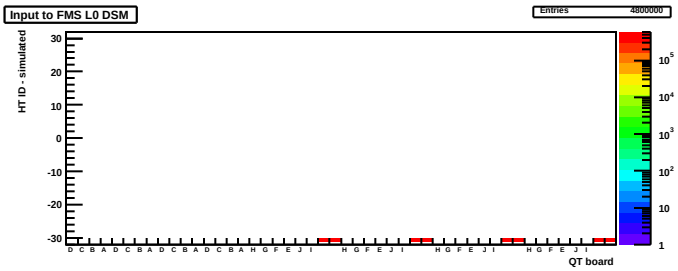

Input to FMS L0 DSM
Entries 2.88e+07
QT8(3) sum
QT board

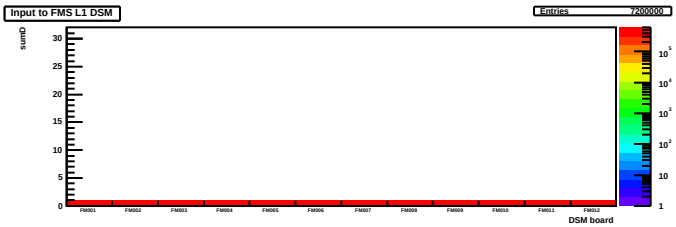

Input to FMS L0 DSM
Entries 4800000
QT8(3) sum - simulated
QT board

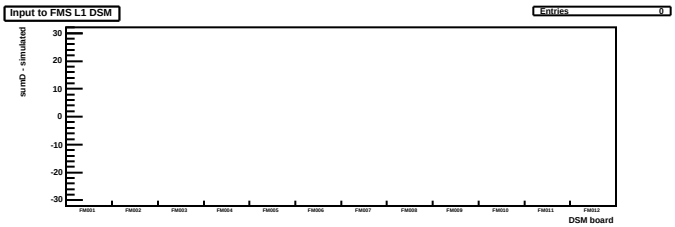

Input to FMS L0 DSM
Entries 2.88e+07
HT ADC
QT board

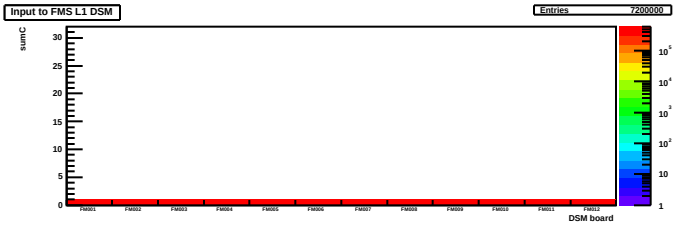

Input to FMS L0 DSM
Entries 4800000
HT ADC - simulated
QT board

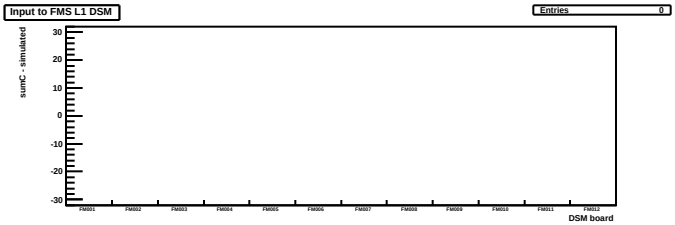

Input to FMS L0 DSM
Entries 2.88e+07
HT ID
QT board

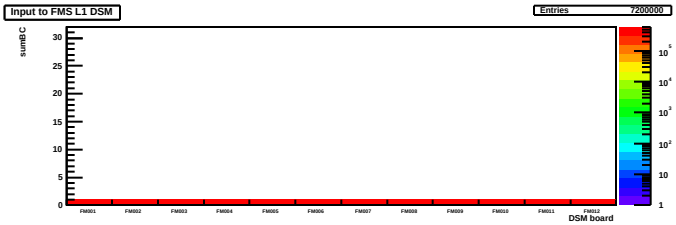

Input to FMS L0 DSM
Entries 4800000
HT ID - simulated
QT board

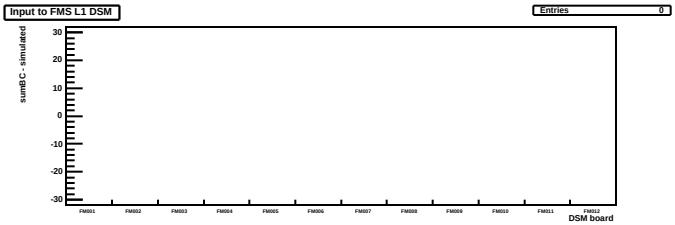

Input to FMS L1 DSM
Entries 7200000
sumD
DSM board

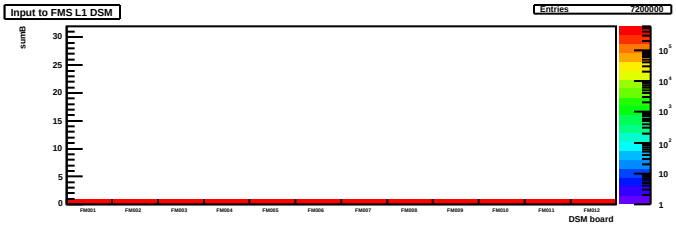

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

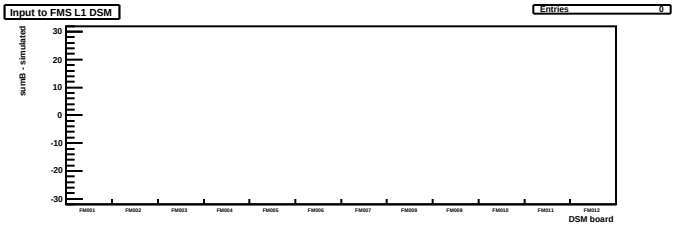

Input to FMS L1 DSM
Entries 7200000
sumC
DSM board

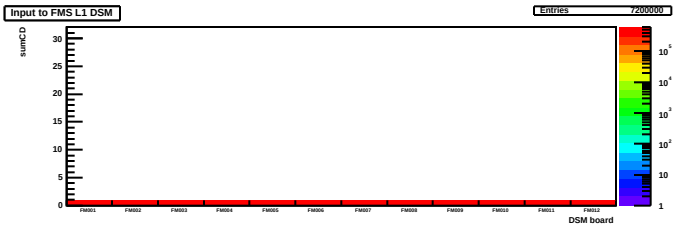

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

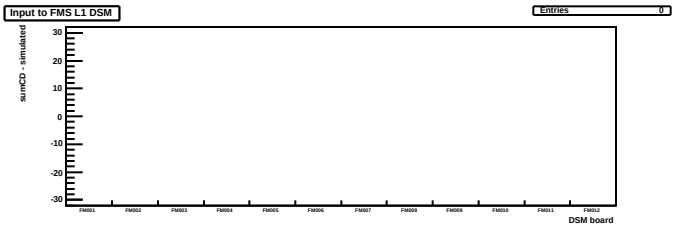

Input to FMS L1 DSM
Entries 7200000
sumBC
DSM board

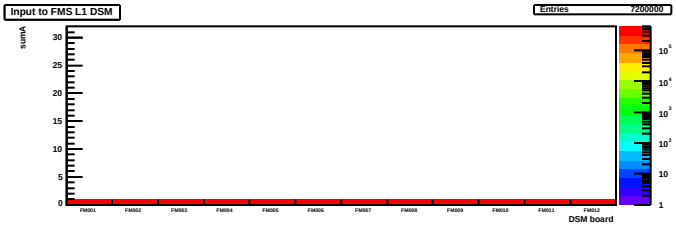

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

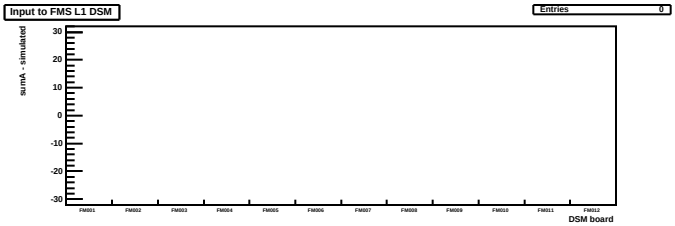

Input to FMS L1 DSM
Entries 7200000
sumB
DSM board

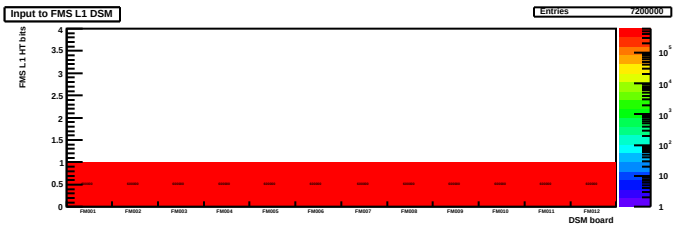

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

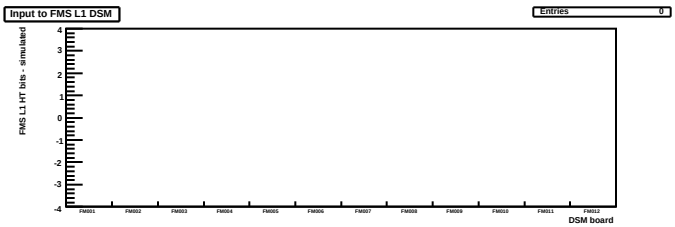

Input to FMS L1 DSM
Entries 7200000
sumCD
DSM board

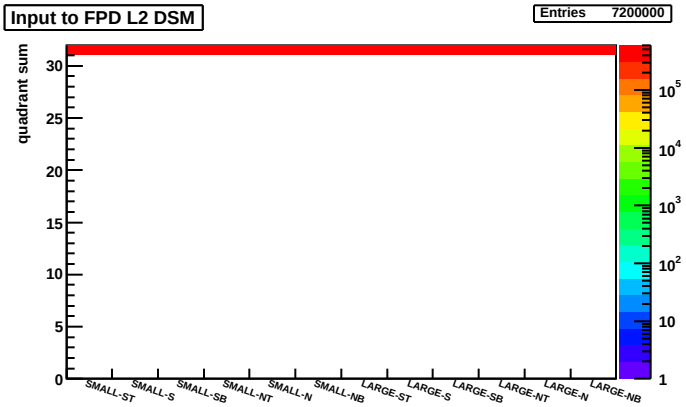

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

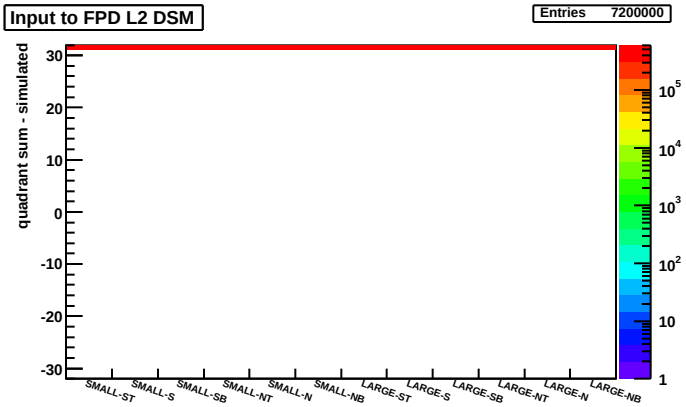

Input to FMS L1 DSM
Entries 7200000
sumA
DSM board

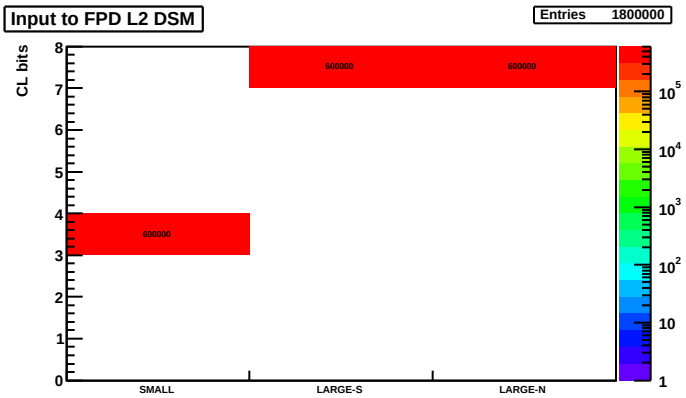

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

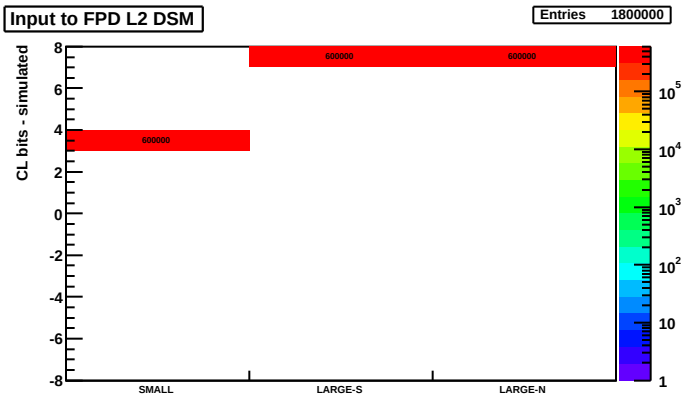

Input to FMS L1 DSM
Entries 7200000
FMS L1 HT bits
DSM board

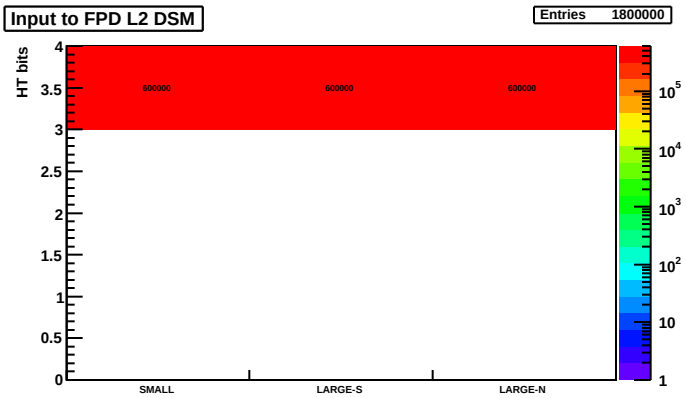

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

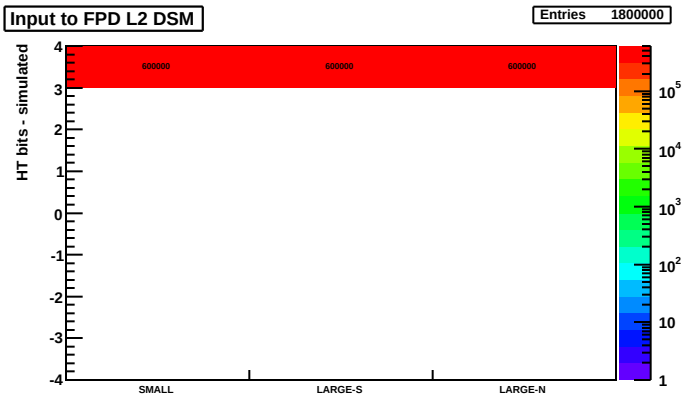

Input to FPD L2 DSM
Entries 7200000
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

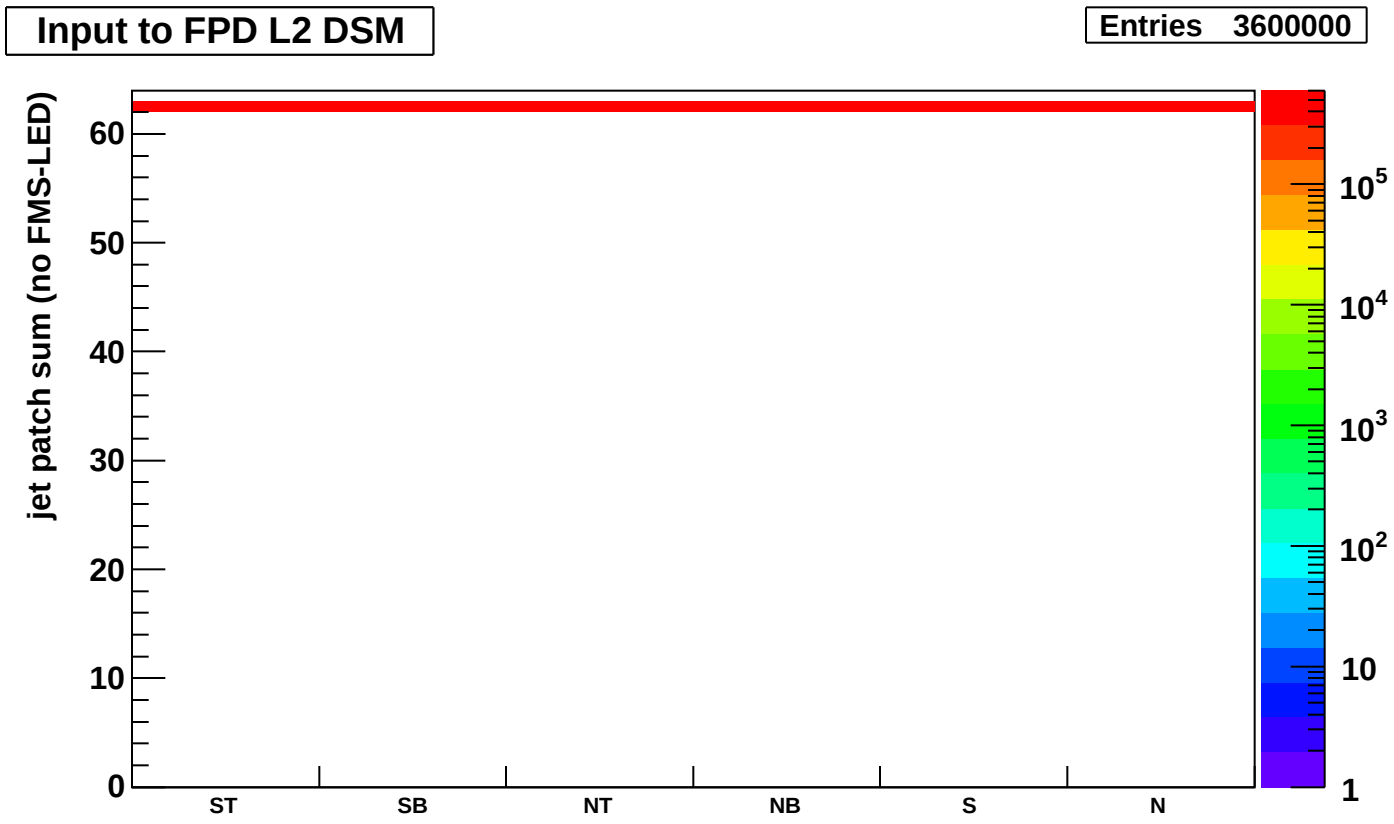

Input to FPD L2 DSM
Entries 7200000
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

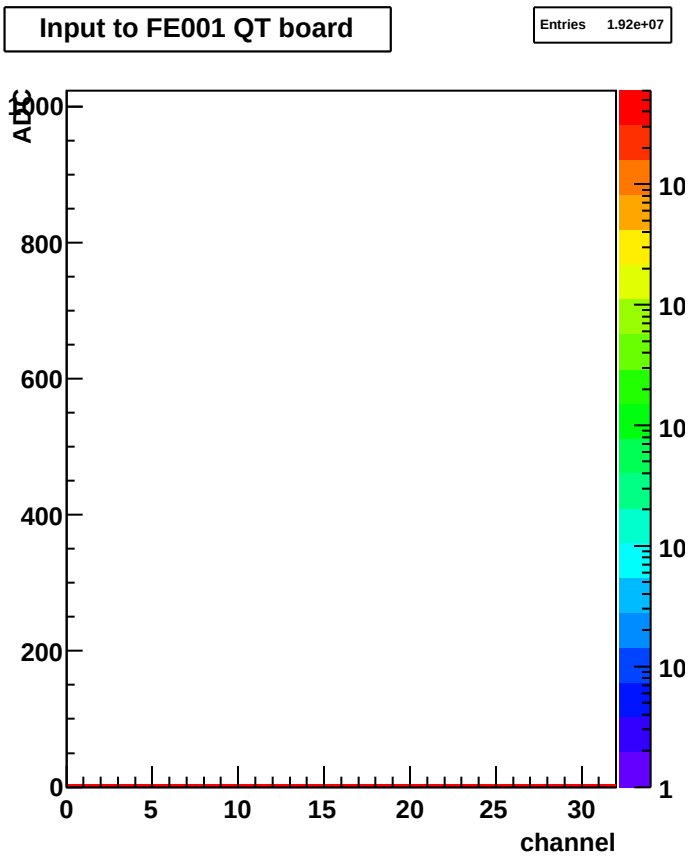

Input to FPD L2 DSM
Entries 1800000
CL bits
600000
600000
600000
SMALL
LARGE-S
LARGE-N

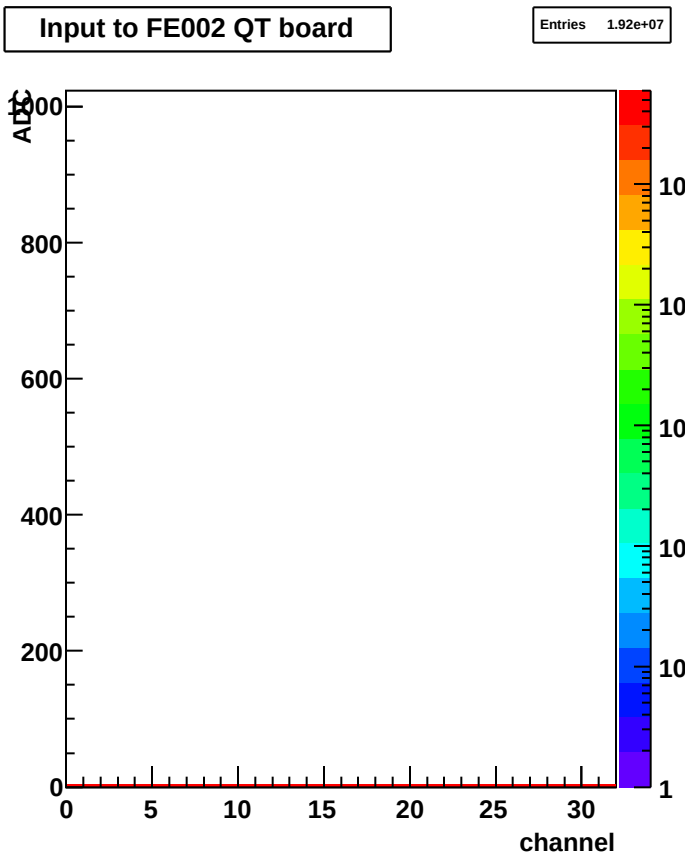

Input to FPD L2 DSM
Entries 1800000
CL bits - simulated
600000
600000
600000
SMALL
LARGE-S
LARGE-N

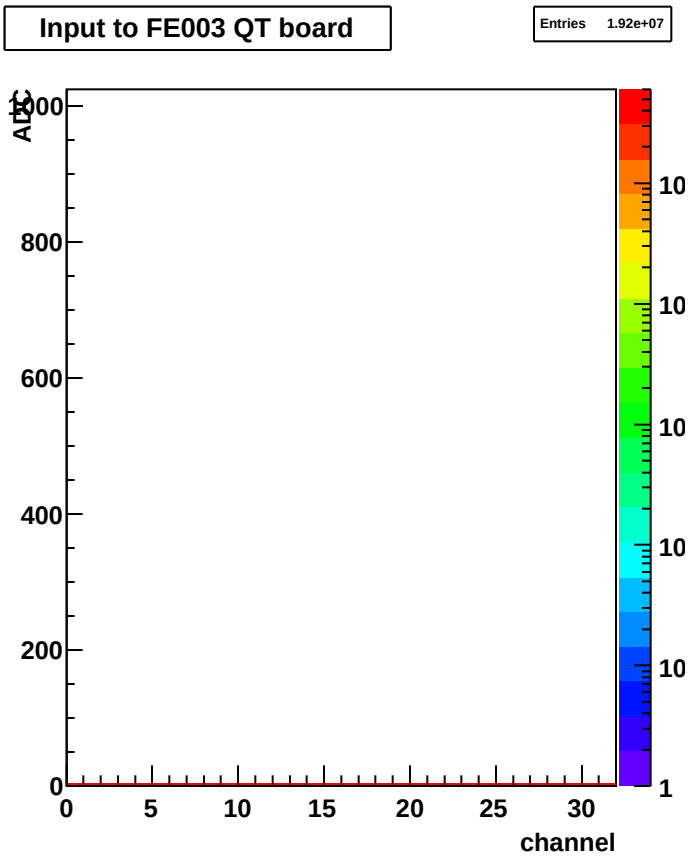

Input to FPD L2 DSM
Entries 1800000
HT bits
600000
600000
600000
SMALL
LARGE-S
LARGE-N

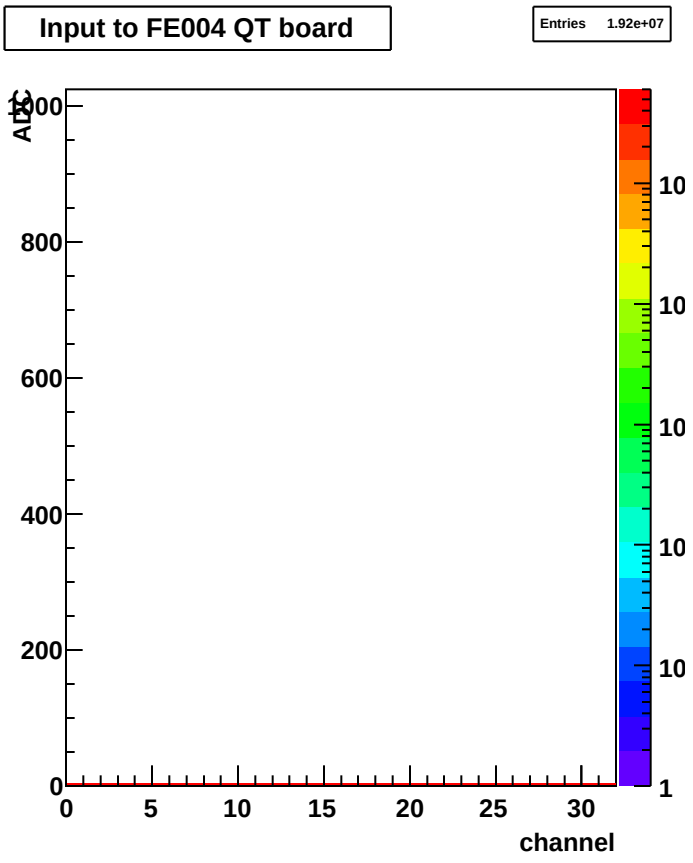

Input to FPD L2 DSM
Entries 1800000
HT bits - simulated
600000
600000
600000
SMALL
LARGE-S
LARGE-N

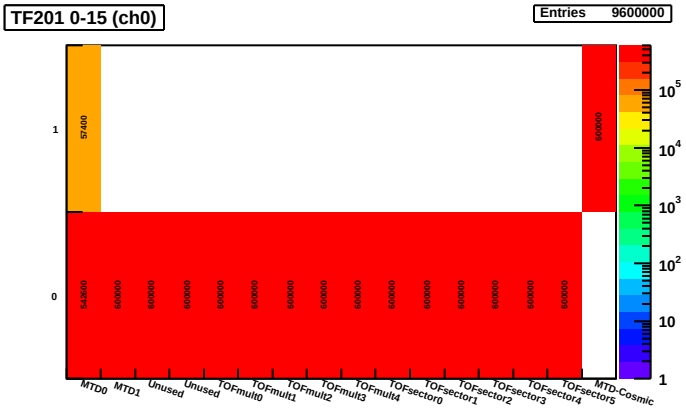

Input to FPD L2 DSM
Entries 3600000
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

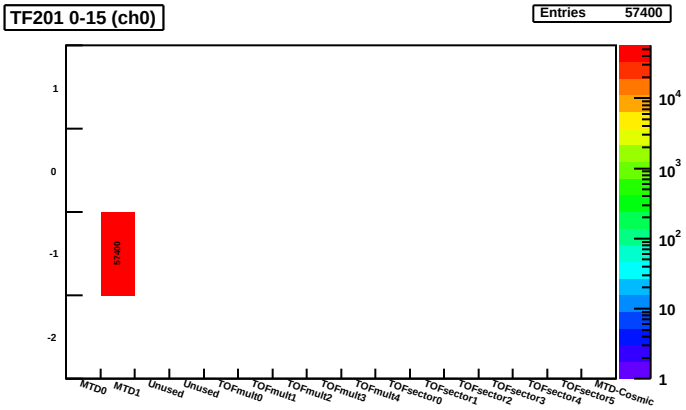

Input to FE001 QT board
Entries 1.92e+07
ADC
channel

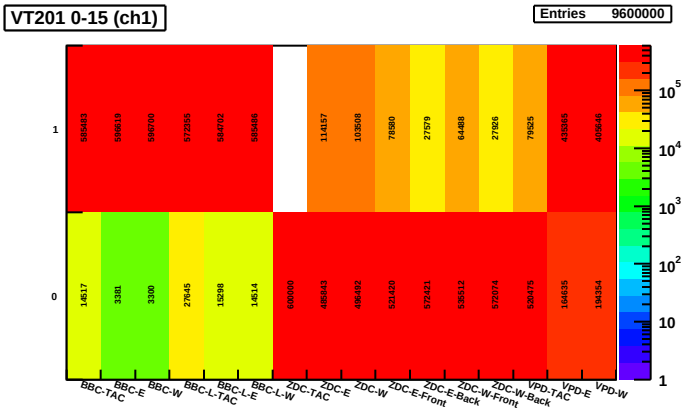

Input to FE002 QT board
Entries 1.92e+07
ADC
channel

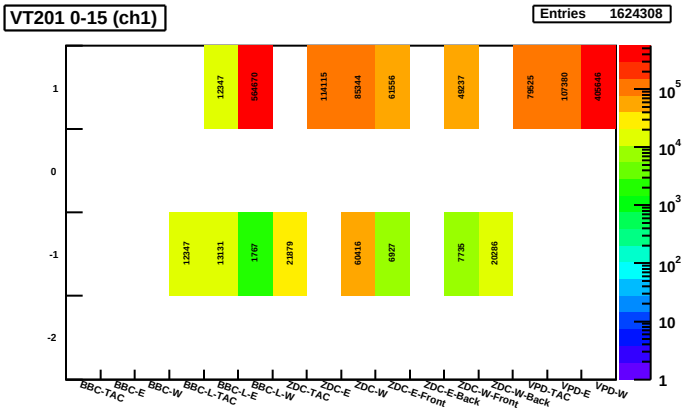

Input to FE003 QT board
Entries 1.92e+07
ADC
channel


Input to FE004 QT board
Entries 1.92e+07
ADC
channel


TF201 0-15 (ch0)
Entries 9600000
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 57400
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 9600000
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 1624308
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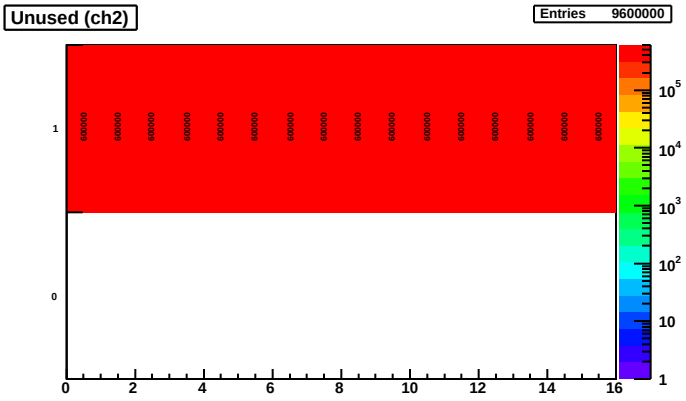
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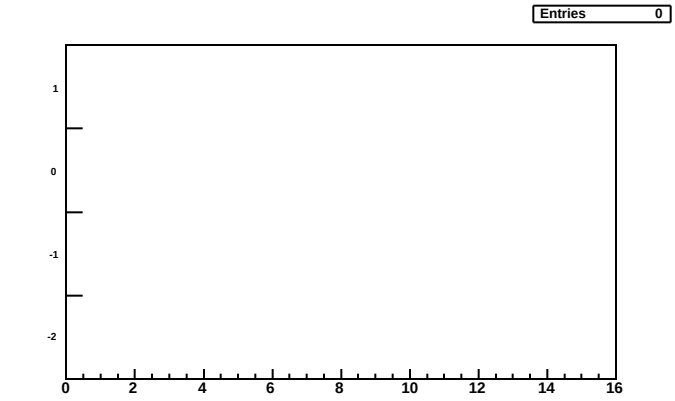
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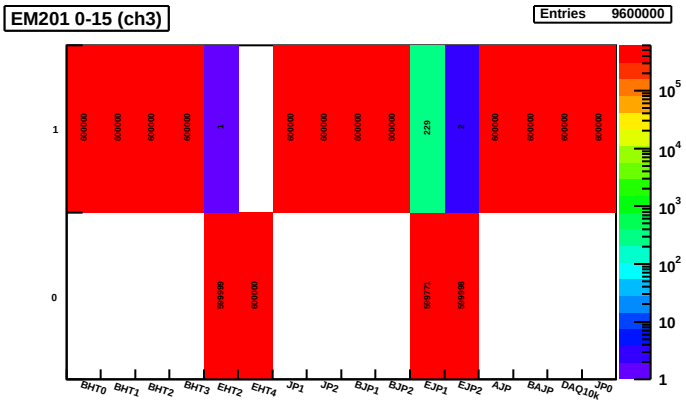
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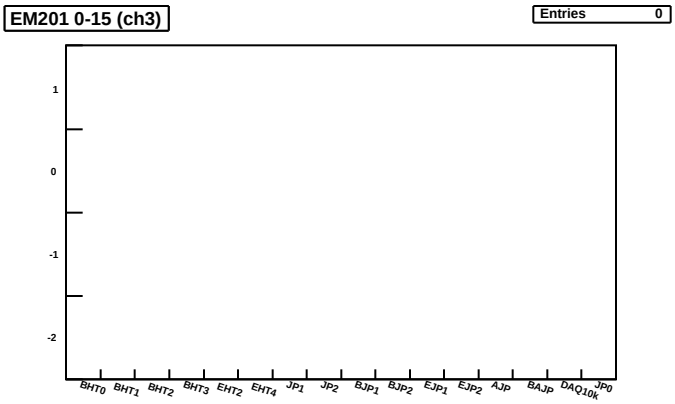
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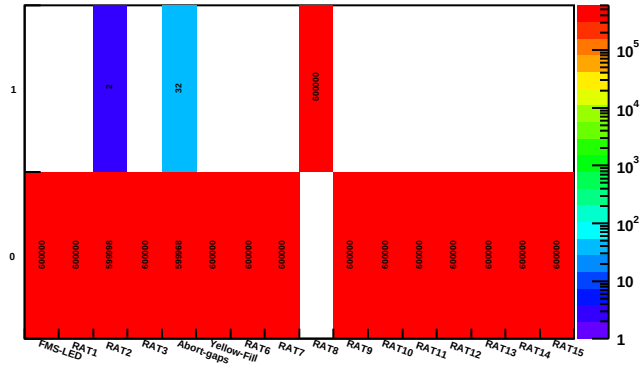
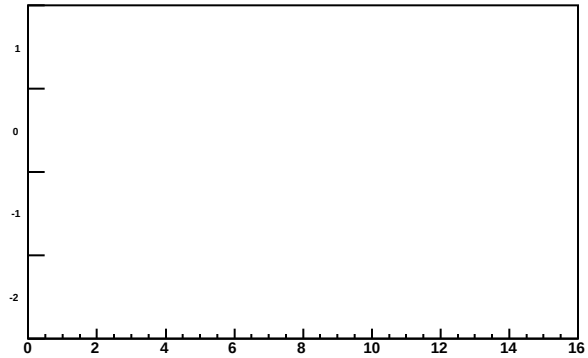
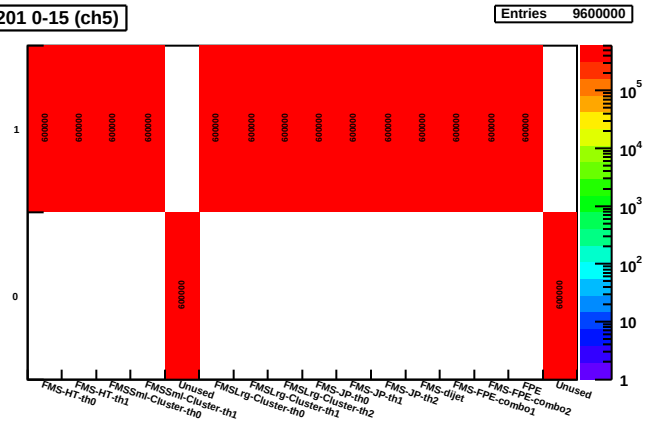
RAT board (ch4)

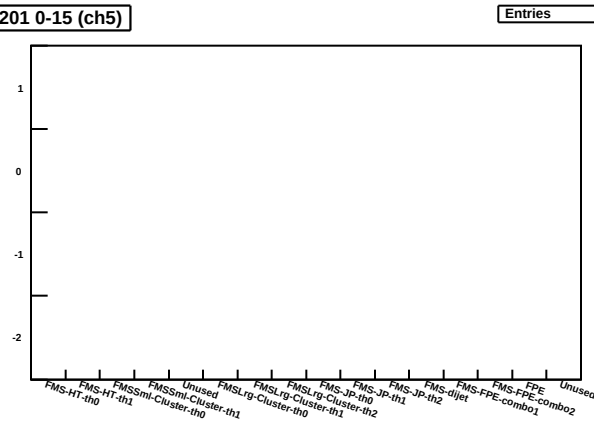




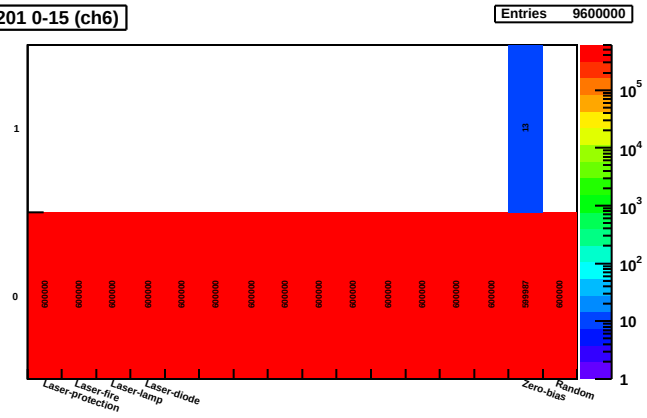
FP201 0-15 (ch5)

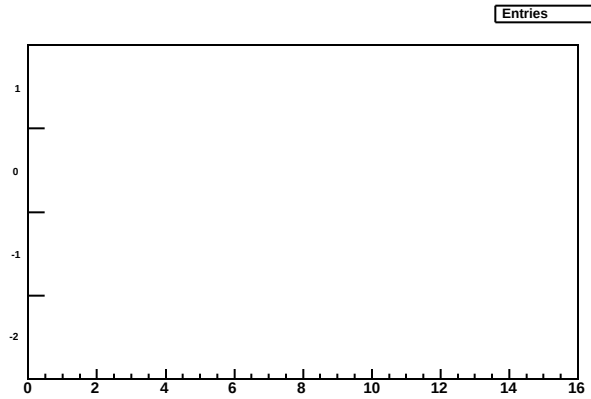
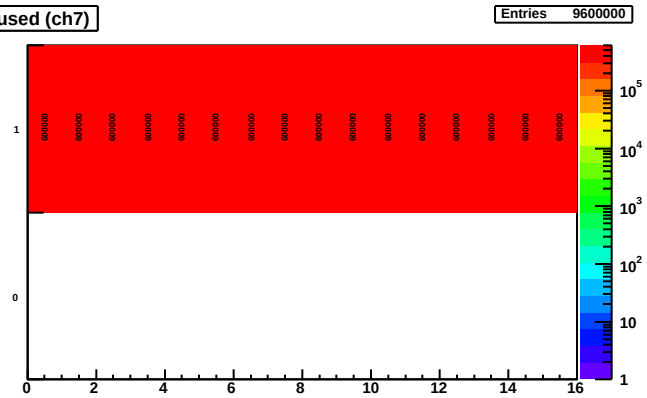
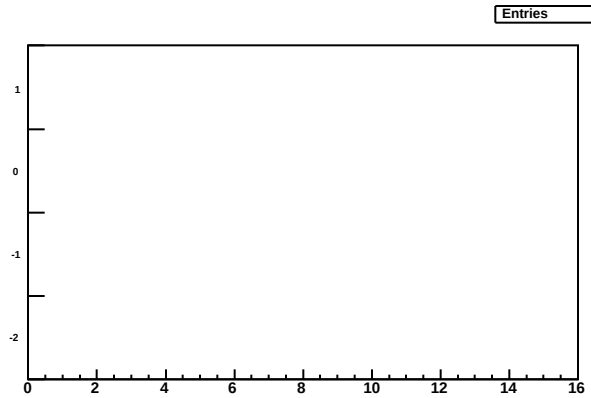


FP201 0-15 (ch5)



ST201 0-15 (ch6)





Unused (ch7)