

Event Mixup

20240607

INTTJPMT

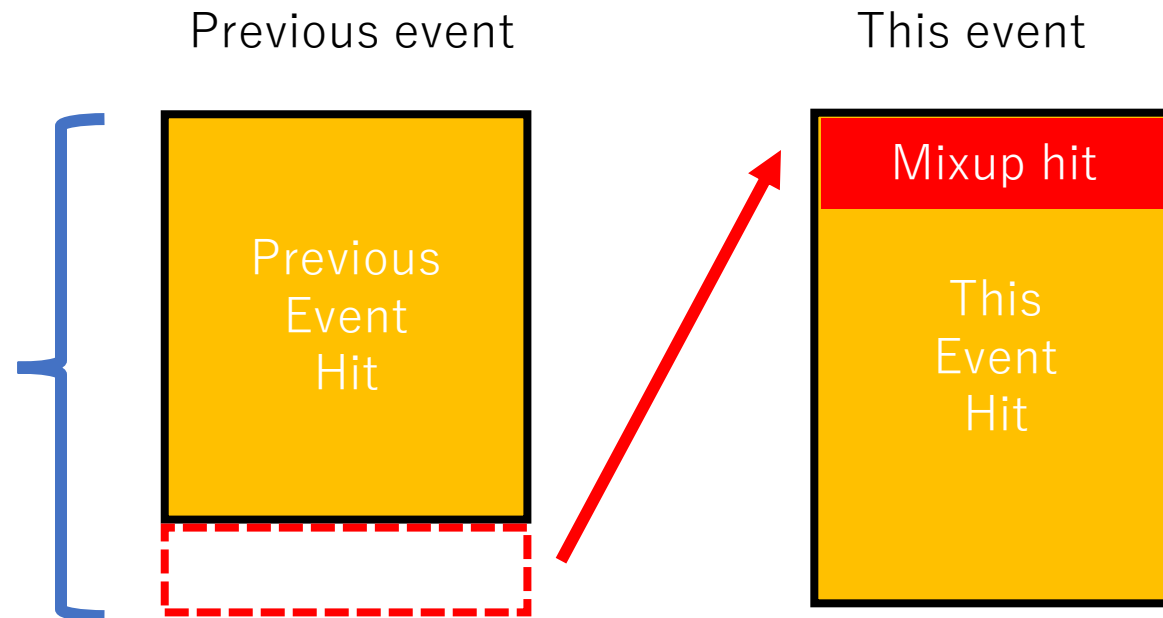
NWU Mai Kano

contents

- Run24のデータ
- Fun4Allへの移行

Mixupイベント及びヒットの割合の計算

- **Mixup event fraction**=(Mixup hitがあるイベント数)/(Entries) × 100
- **Mixup hit fraction**=(Mixuphitの数)/(1つ前のイベントのヒット数+Mixuphit数) × 100
平均 (Mixup hit fraction)/(Mixup hitがあるイベント数)



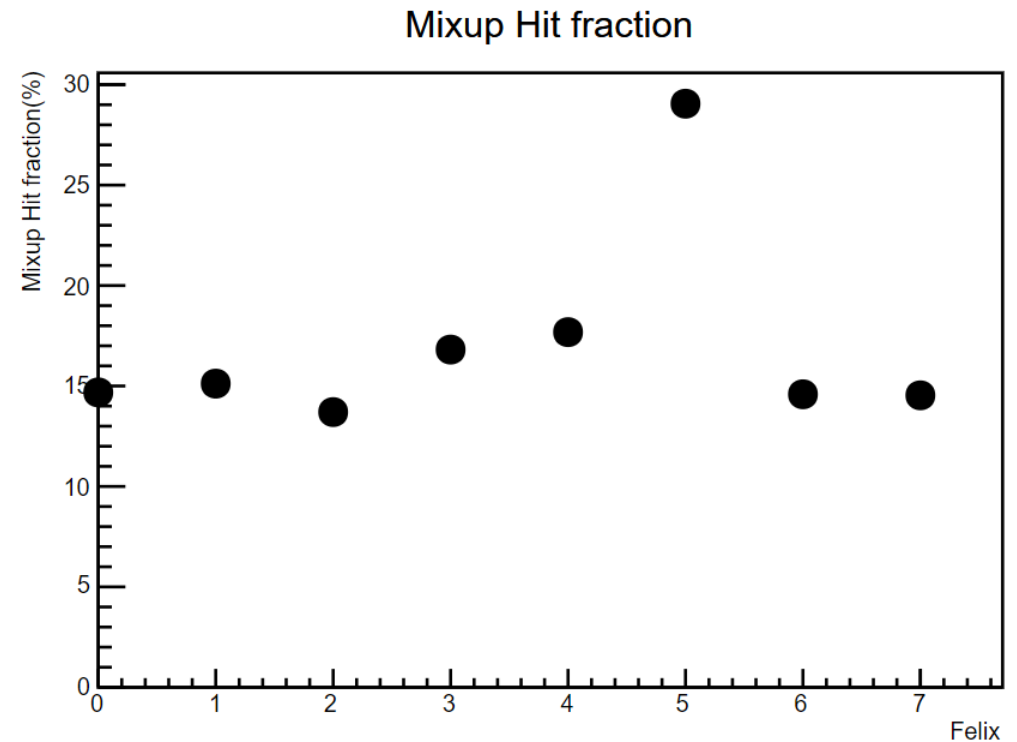
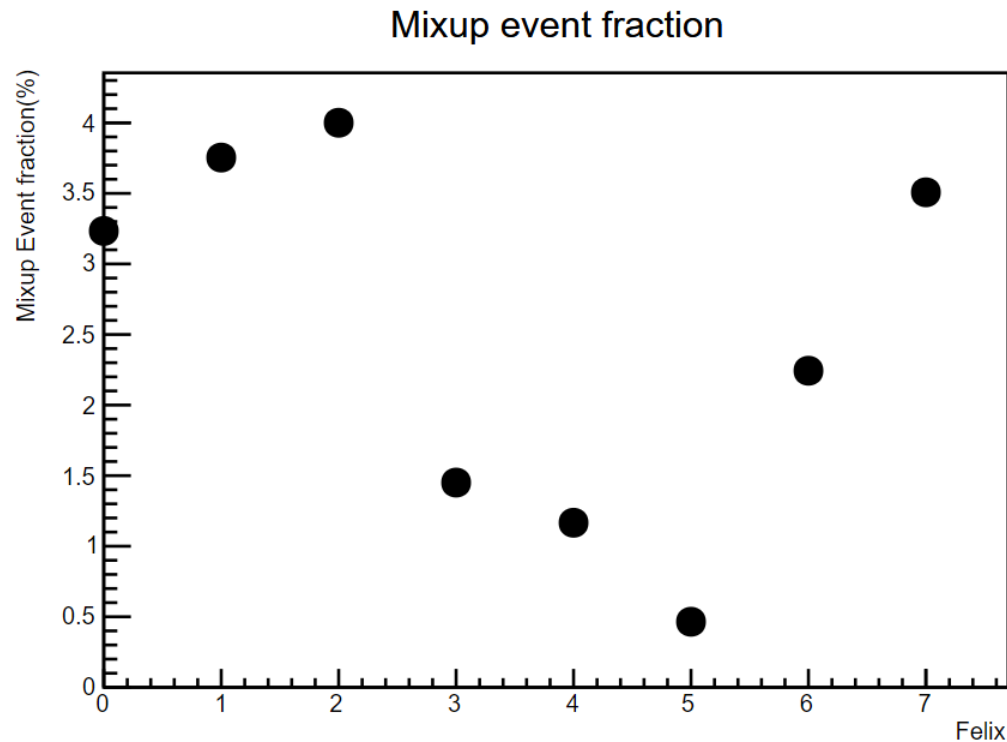
Run24 p-p

Run41502(5/2) open time=35 n_collision=100

Mixup event fraction=(Mixup hitがあるイベント数)/(Entries) × 100

Mixup hit fraction=(Mixuphitの数)/(1つ前のイベントのヒット数+Mixuphit数) × 100

平均 (Mixup hit fraction)/(Mixup hitがあるイベント数)



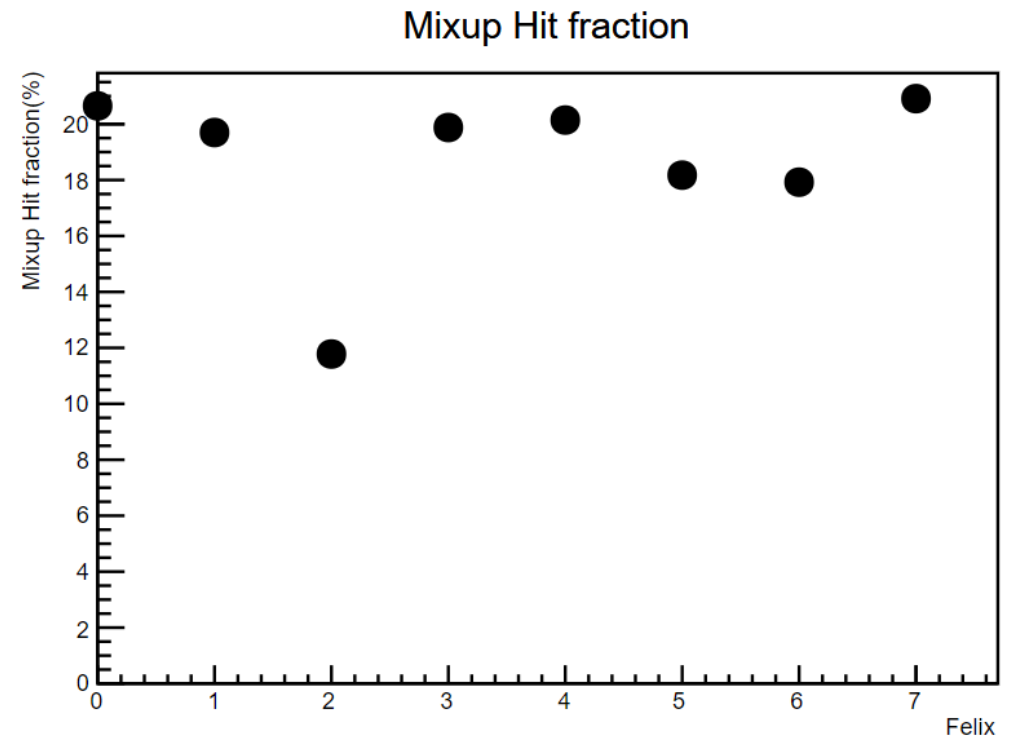
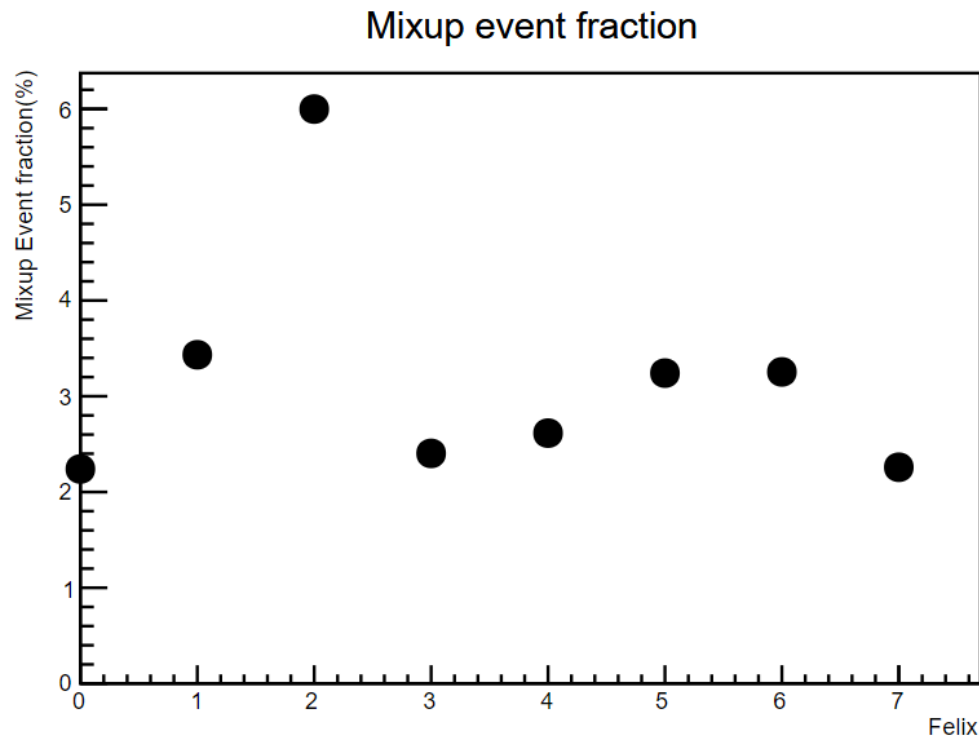
Run24 p-p

Run43278(5/20/24) open time=55 n_collision=100

Mixup event fraction=(Mixup hitがあるイベント数)/(Entries) × 100

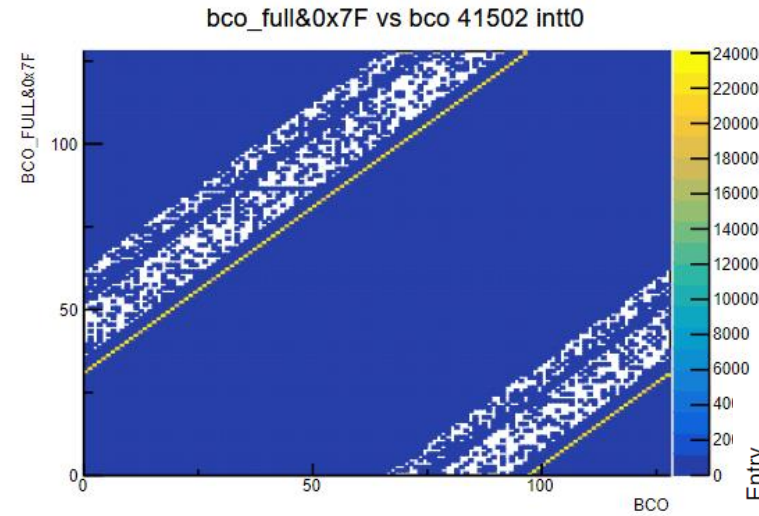
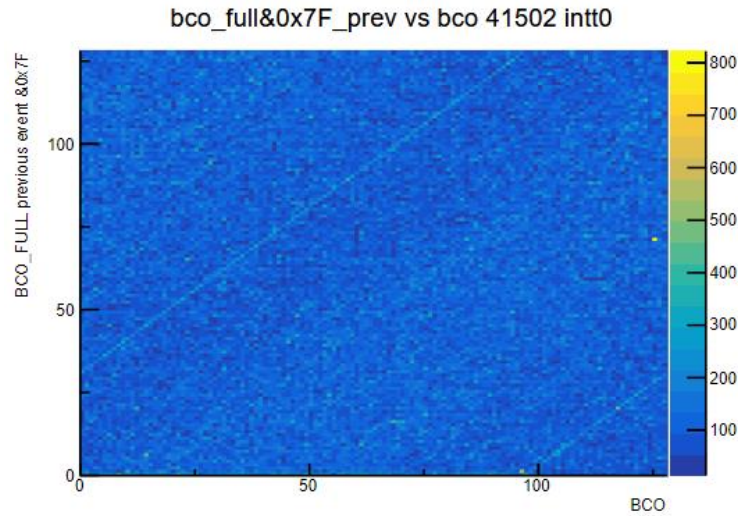
Mixup hit fraction=(Mixuphitの数)/(1つ前のイベントのヒット数+Mixuphit数) × 100

平均 (Mixup hit fraction)/(Mixup hitがあるイベント数)



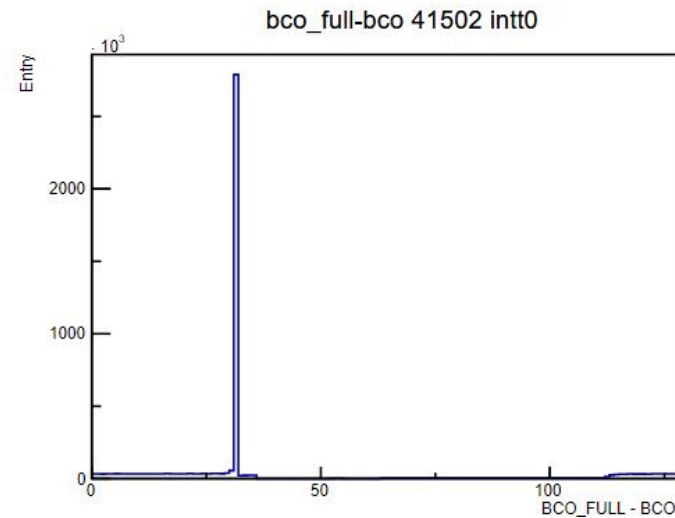
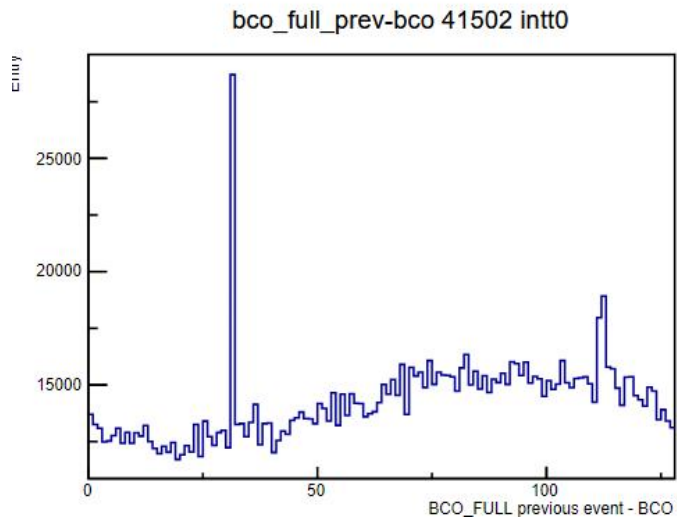
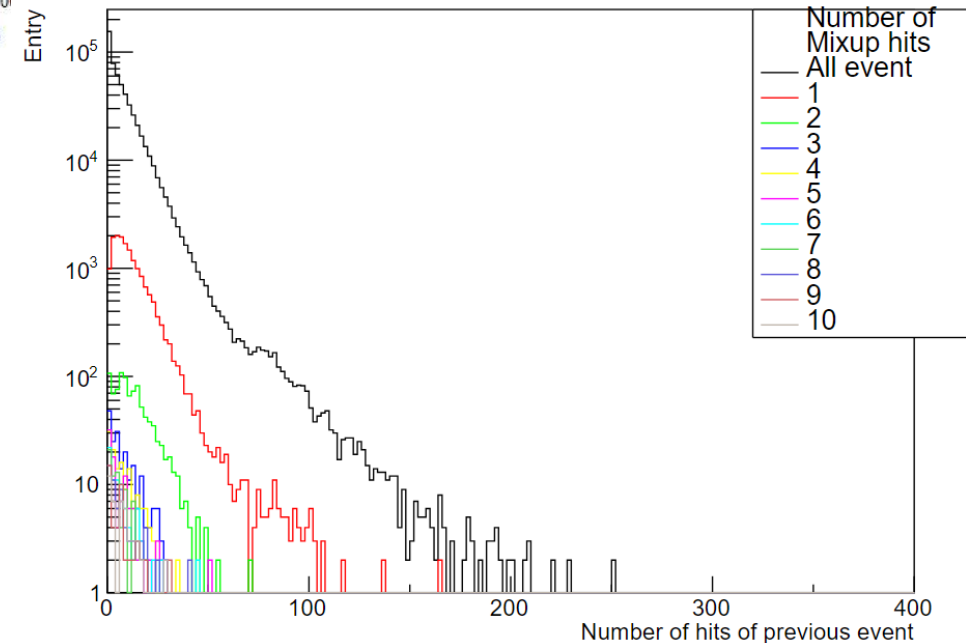
Run24 p-p

Run41502(5/2/24) open time=35 n_collision=100 intt0



Multiplicityの低いp-pでも
Event Mixupは起きている
Multiplicityとの相関は確認できず

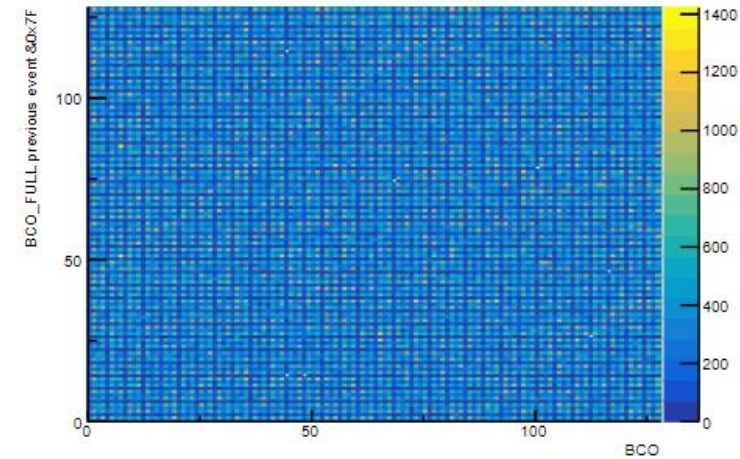
Mixup Multiplicity 41502 intt0



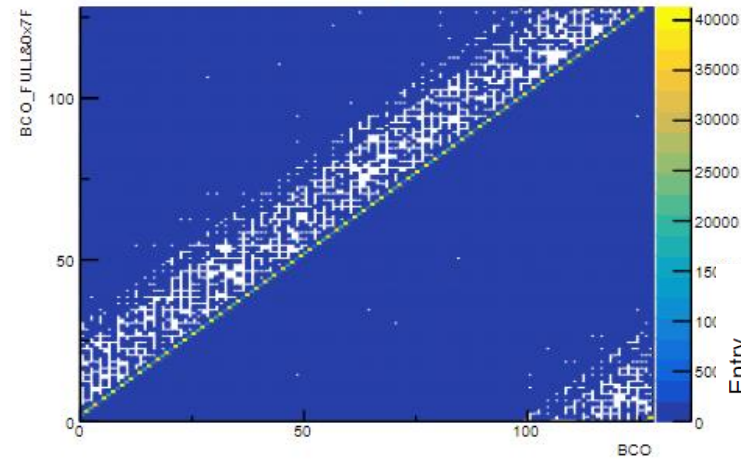
Run24 p-p

Run43278(5/20/24) open time=55 n_collision=100 intt0

bco_full&0x7F_prev vs bco 43278 intt0

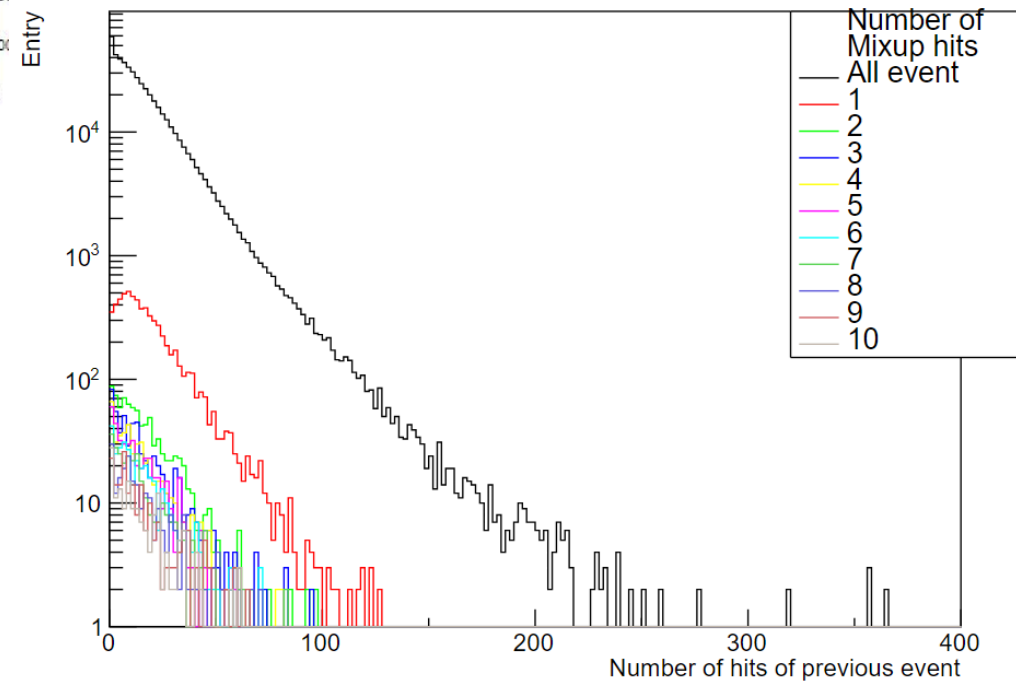


bco_full&0x7F vs bco 43278 intt0

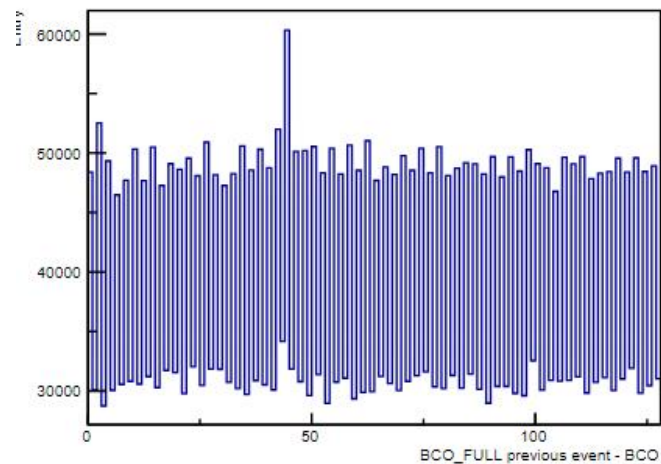


Multiplicityの低いp-pでも
Event Mixupは起きている
Multiplicityとの相関は確認できず

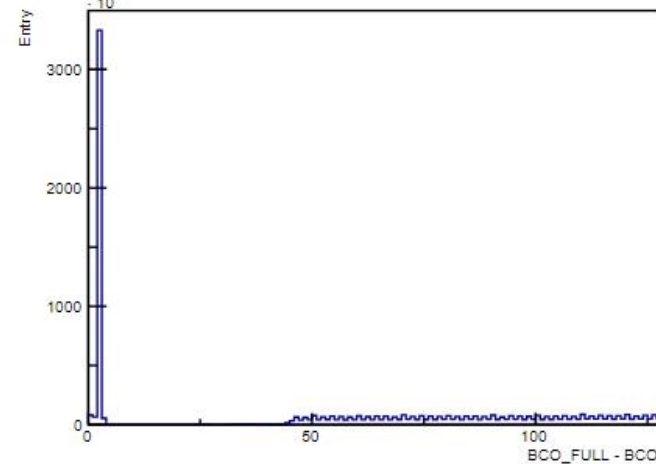
Mixup Multiplicity 43278 intt0



bco_full_prev-bco 43278 intt0



bco_full-bco 43278 intt0



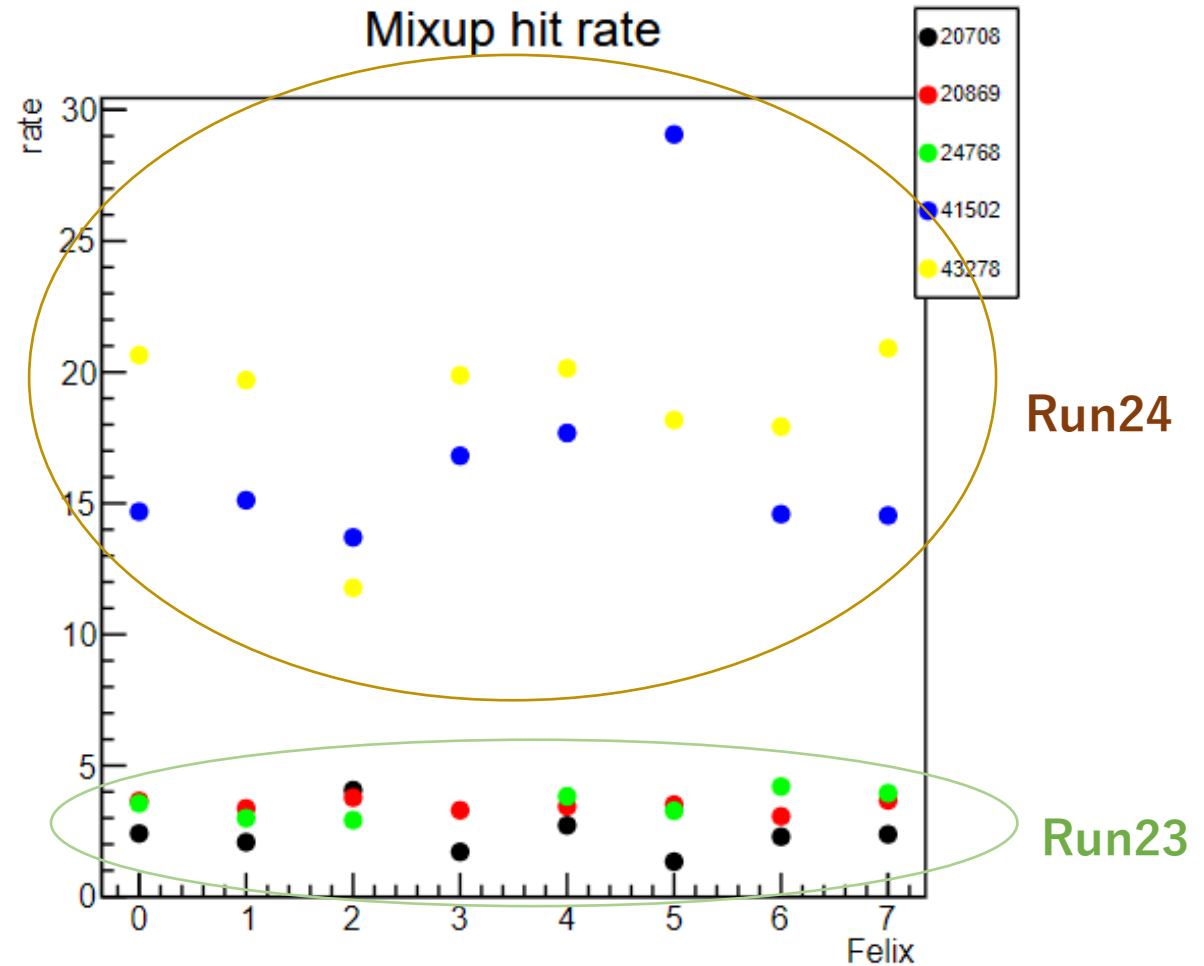
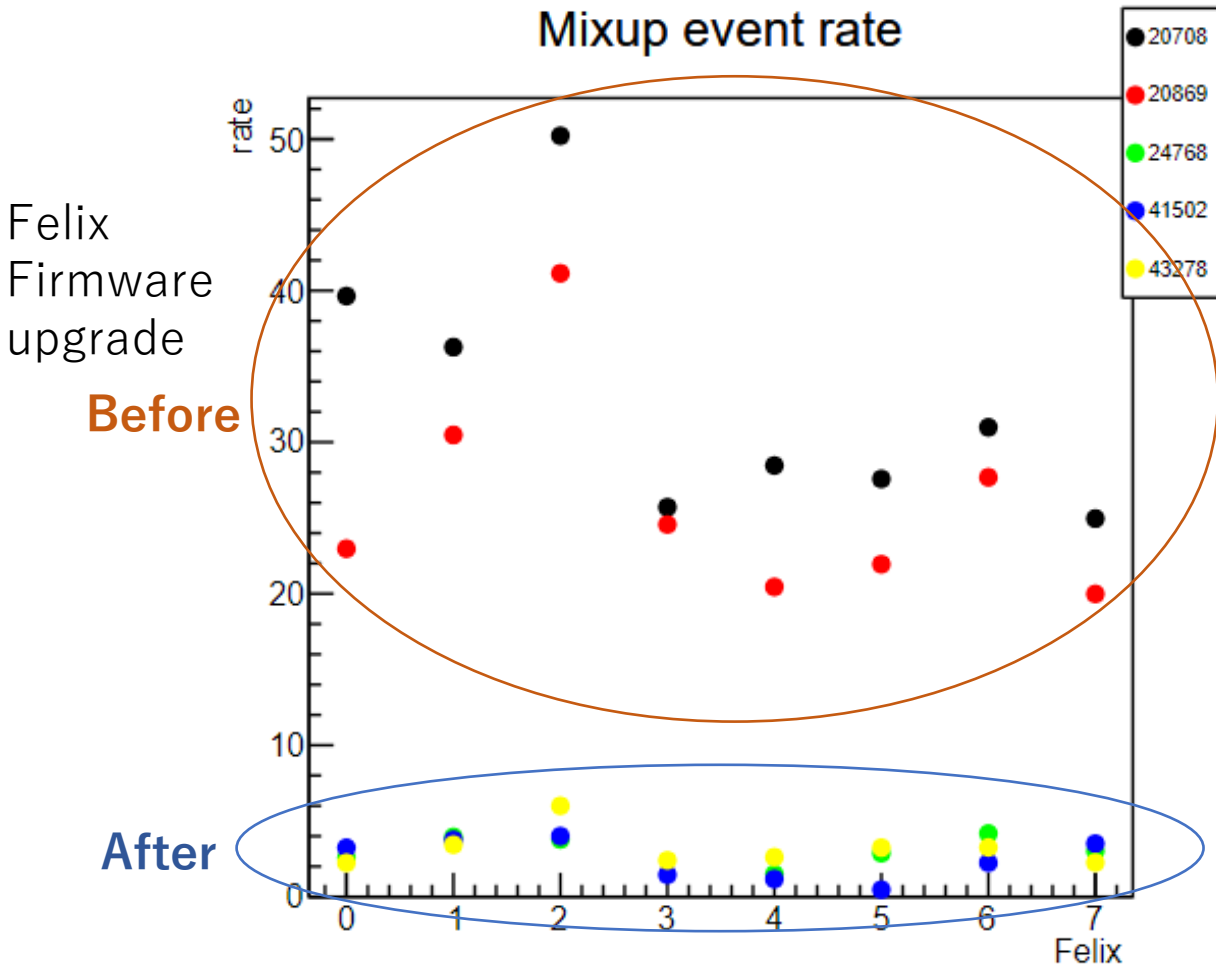
Run23 · Run24 fraction

Mixup event fraction=(Mixup hitがあるイベント数)/(Entries) × 100

Mixup hit fraction=(Mixuphitの数)/(1つ前のイベントのヒット数+Mixuphit数) × 100

平均 (Mixup hit fraction)/(Mixup hitがあるイベント数)

- Event fractionからFirmware upgrade前後でMixupを持つイベントは少なくなった
- Hit fractionはRun24が高くなった。p-pだから？

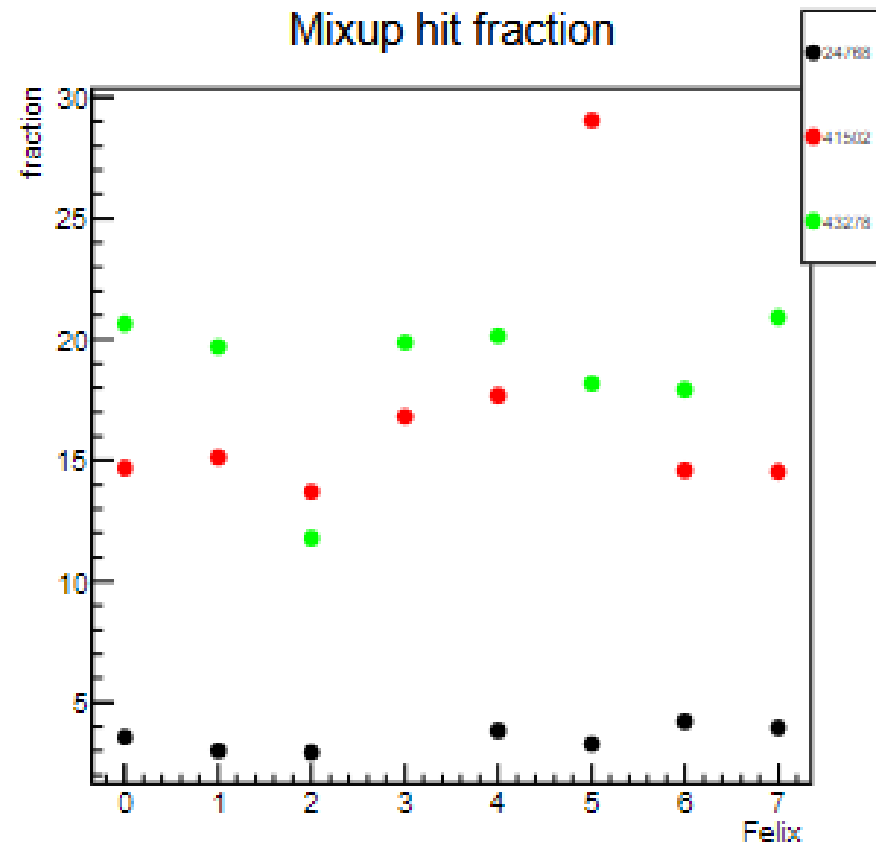
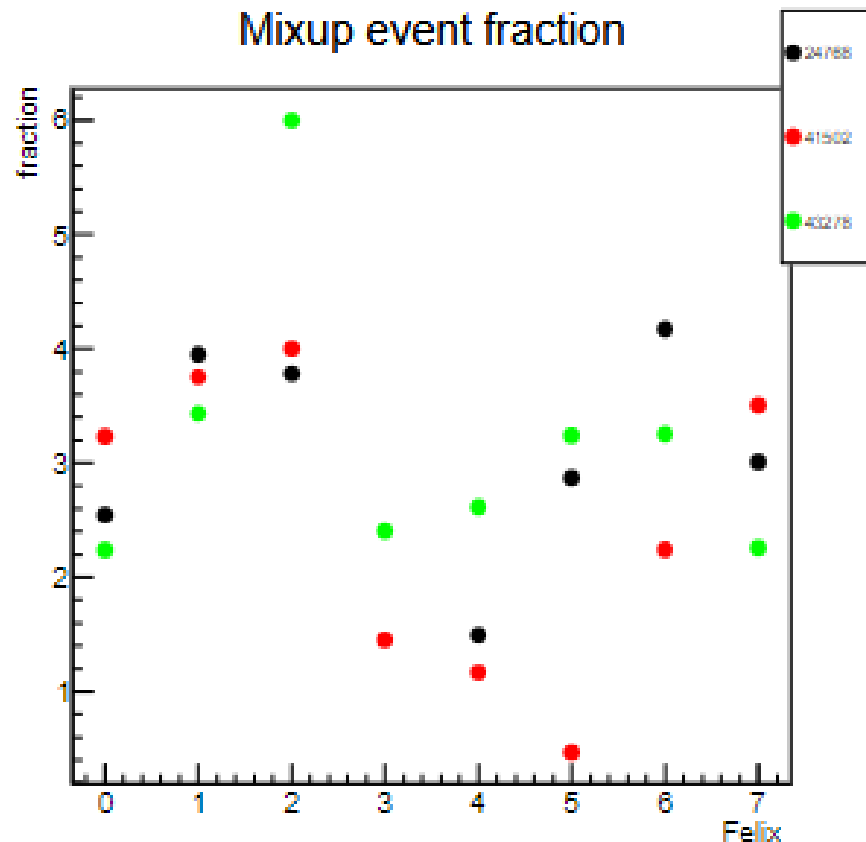


Fraction after firmware upgrade Run23,24

Mixup event fraction=(Mixup hitがあるイベント数)/(Entries) × 100

Mixup hit fraction=(Mixuphitの数)/(1つ前のイベントのヒット数+Mixuphit数) × 100

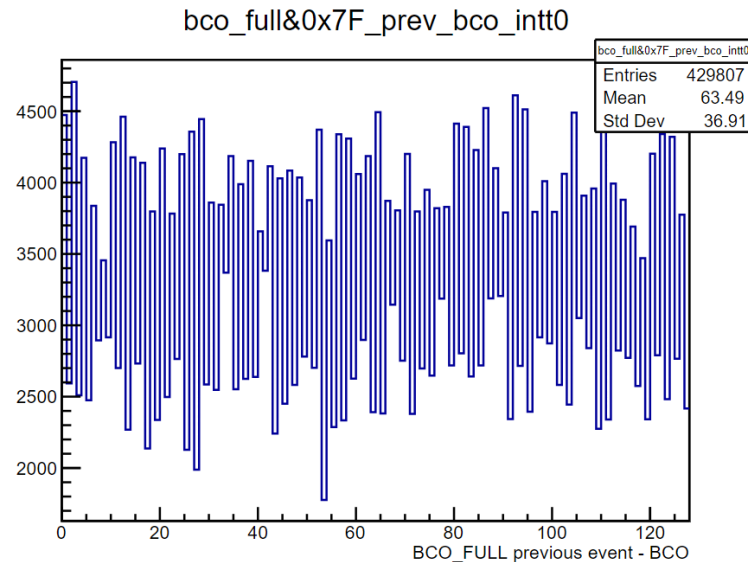
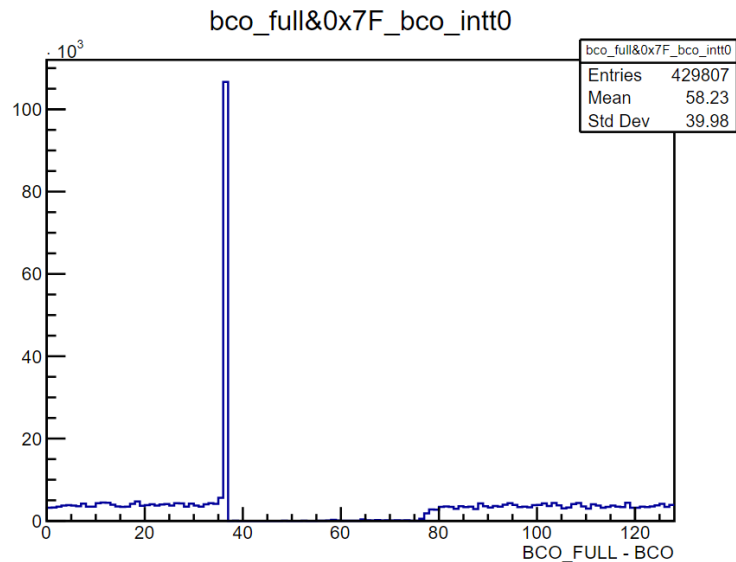
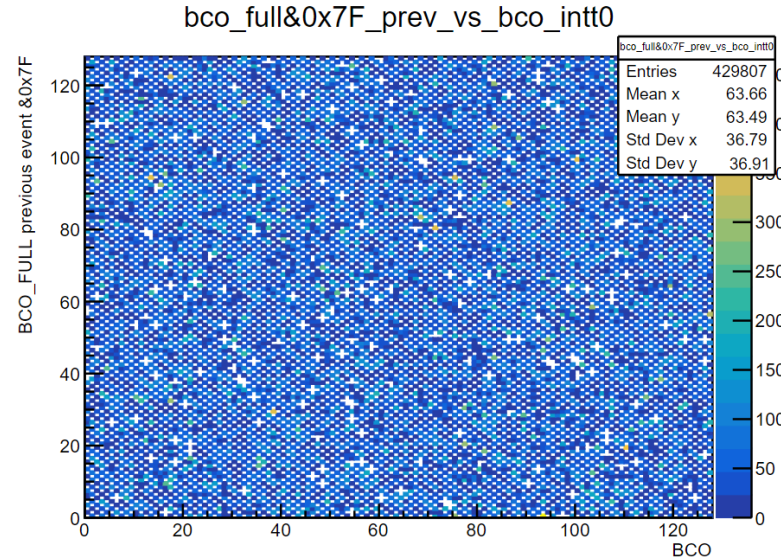
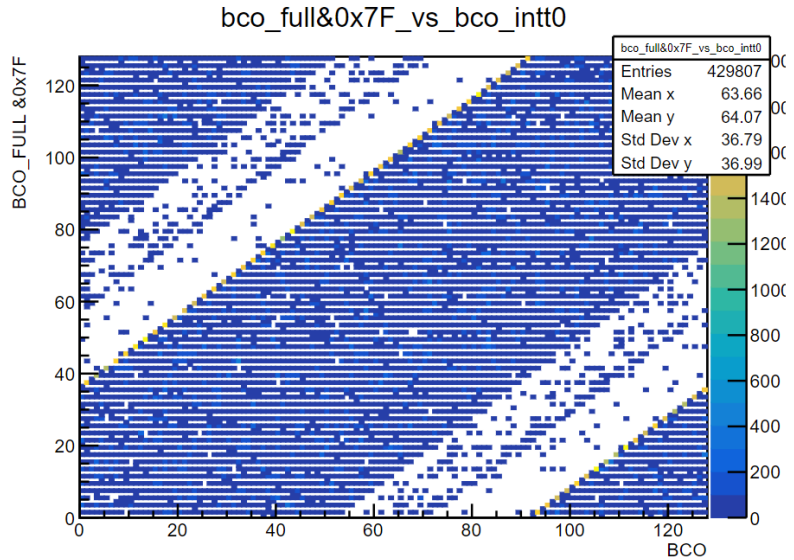
平均 (Mixup hit fraction)/(Mixup hitがあるイベント数)



Fun4Allへの移行

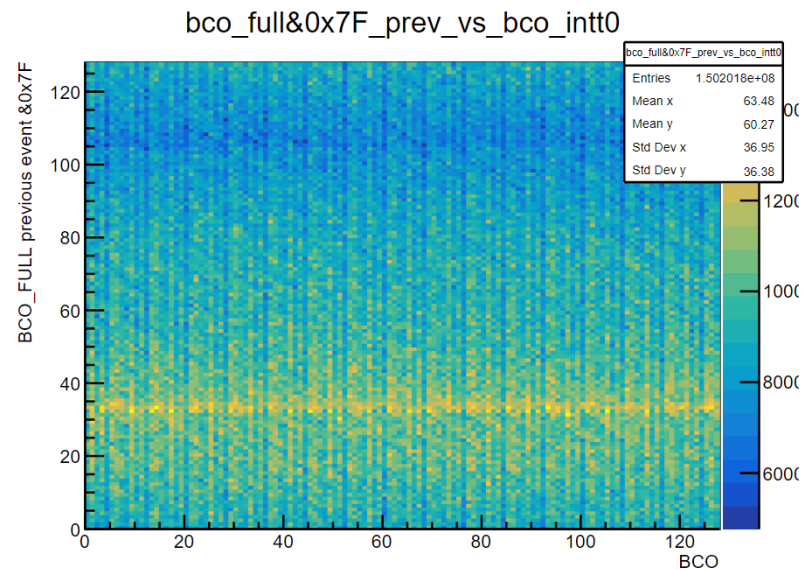
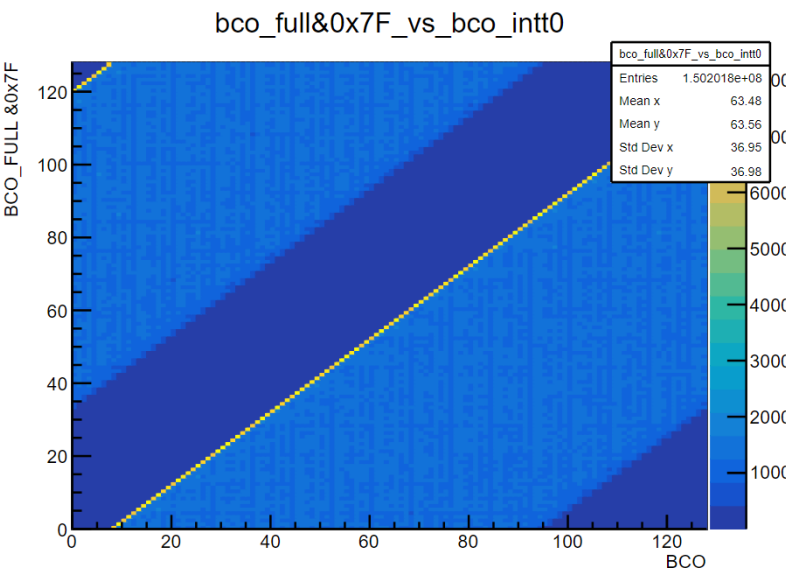
- 現在bco_fullとbcoのプロット出力可能
今後Multiplicity分布、fractionグラフ、Ladderごと
1つ前のイベントからのコピーヒット、hot channel cut など追加予定
- Outputはpdf,root,csv(fractionのみ) のファイル
- INTTQAの1つに導入したい
BCO finderのプロットを用いるのでその後ろに導入

Run44286 intt0 open time=55 n_collision=100



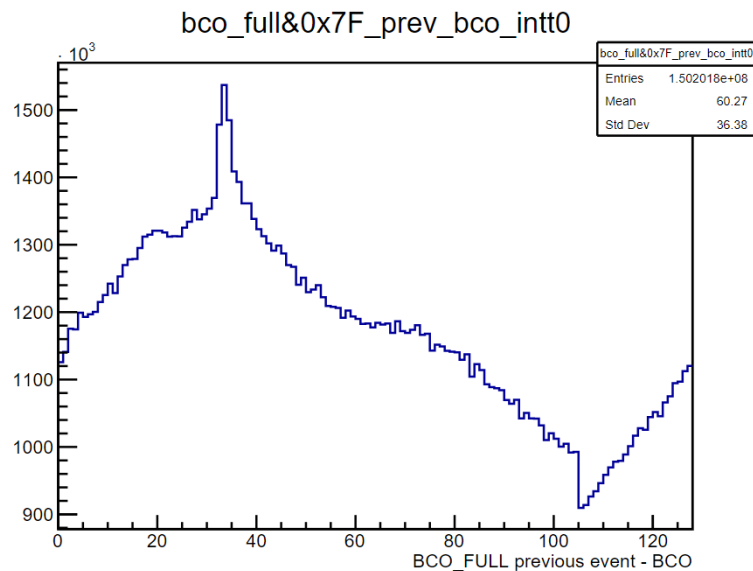
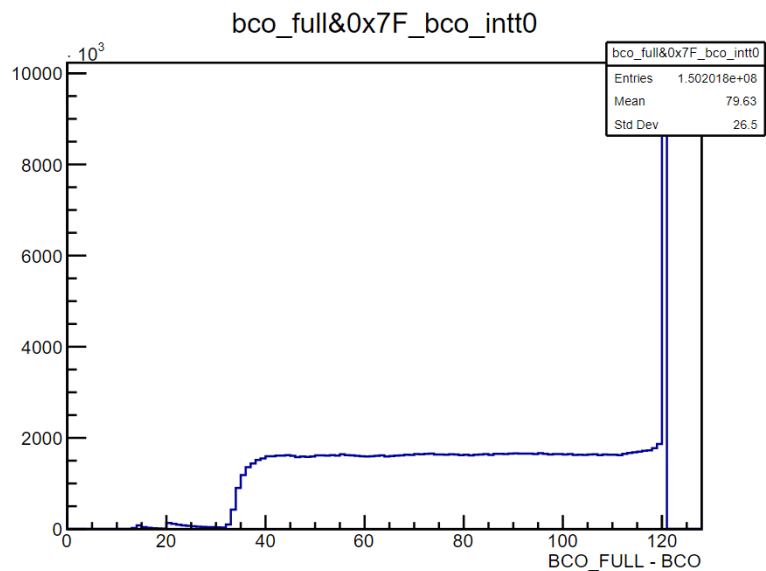
Previous bco_fullも用いた
プロットはピークも相関もなし
→Mixupの発生なし?

Run44395 intt0 open time=55 n_collision=100



Previous bco_fullも用いた
プロットは異なる位置に
ピークあり

2次元分布に直線あり
→Mixupの発生なし？

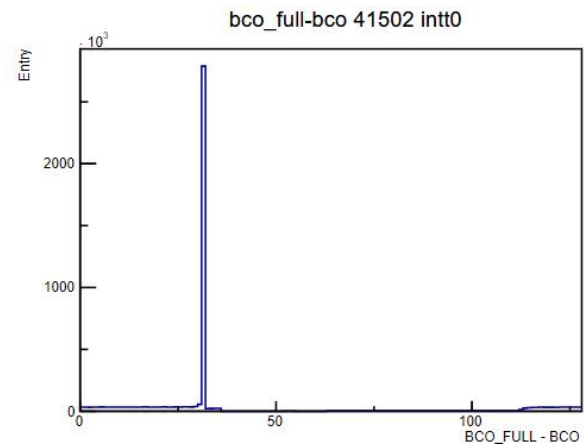
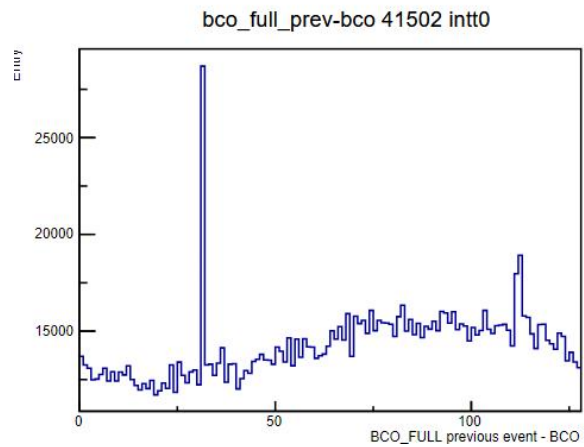
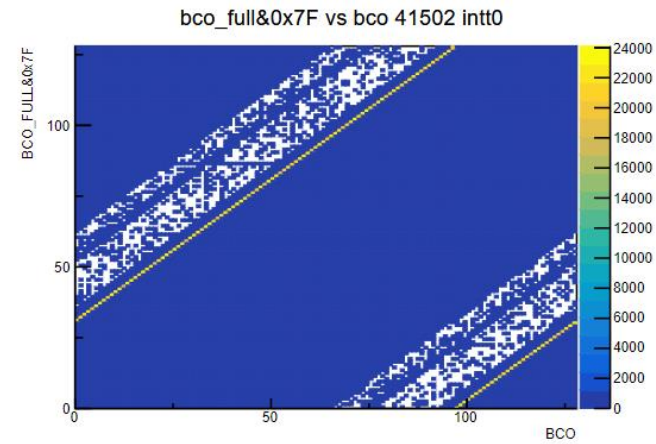
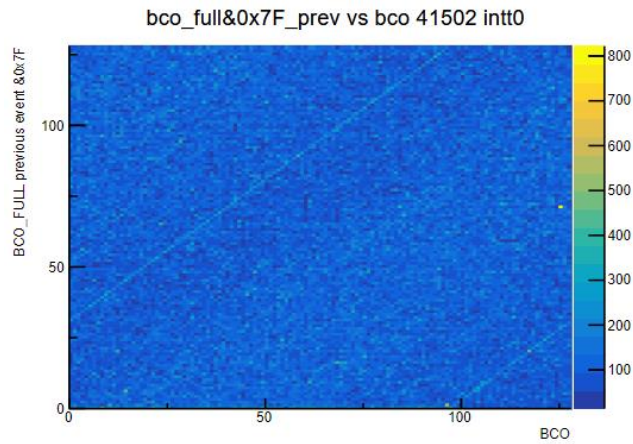


今後の課題

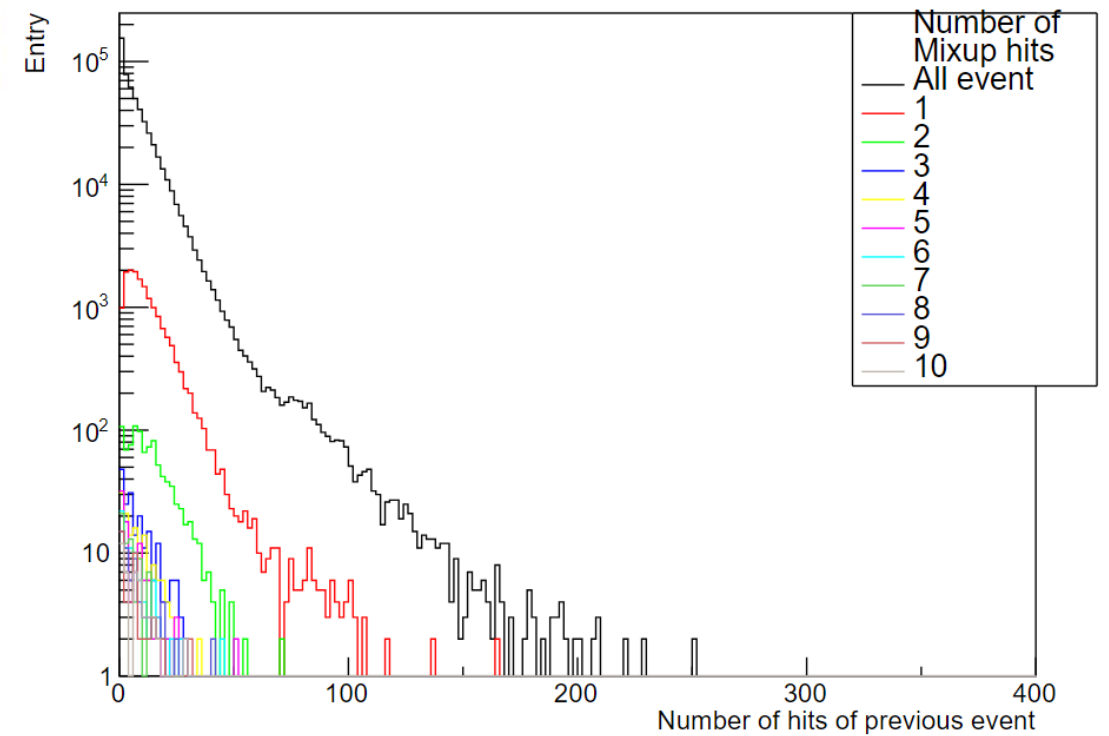
- Fun4Allへの移行
- Event Mixup を今後どのように解決するのか
 - Raulに修正してもらう
 - 既に測定したデータに関して、Mixupしたヒットを1つ前のイベントに戻す
Mixup hitを出来るだけ正確に判定する必要あり

Back up

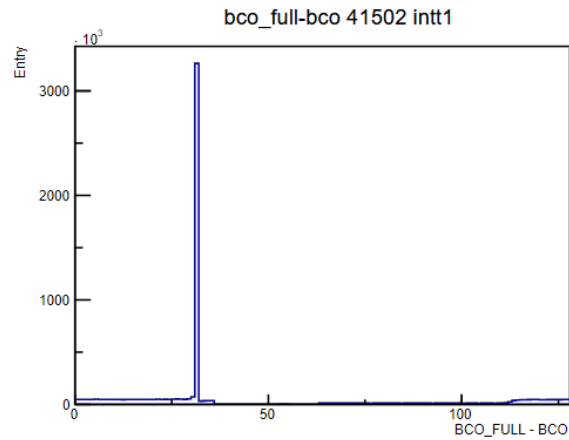
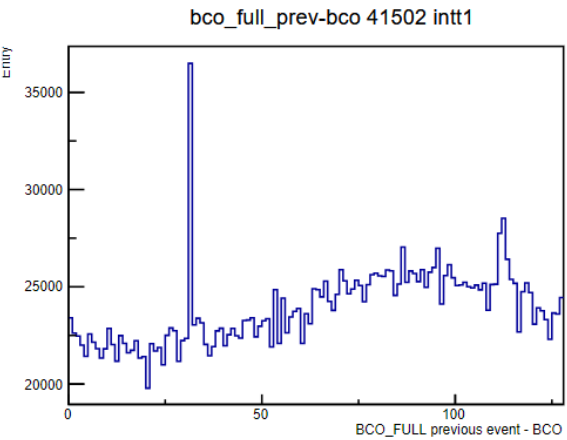
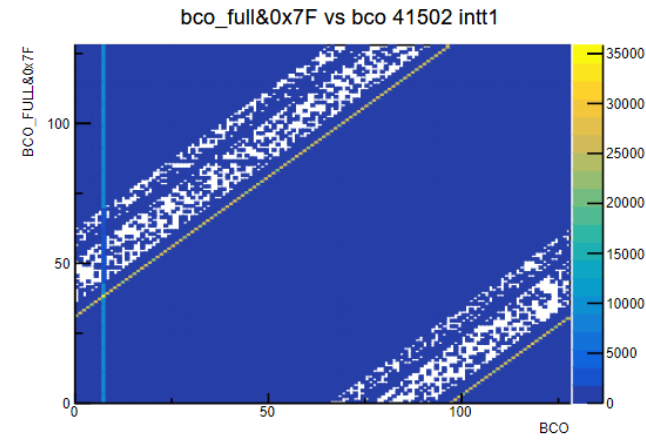
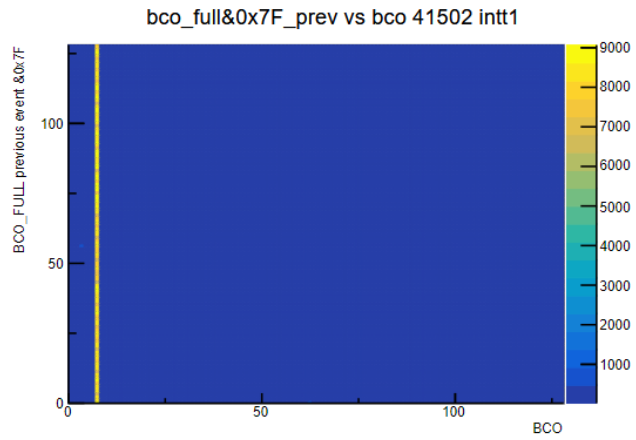
Run41502 intt0



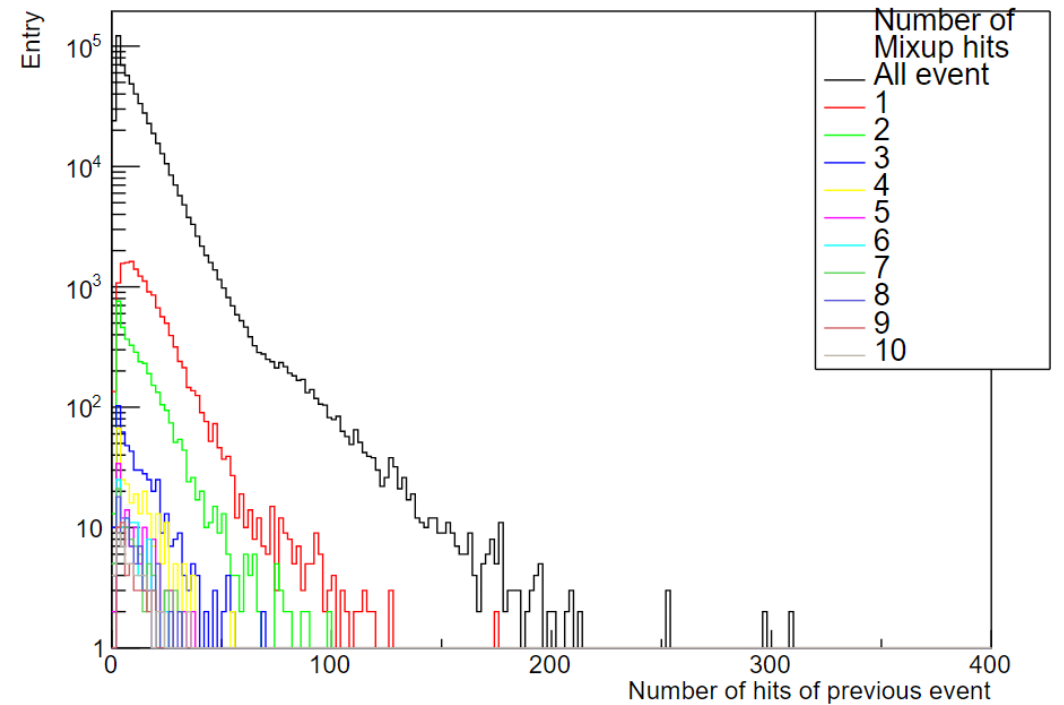
Mixup Multiplicity 41502 intt0



Run41502 intt1

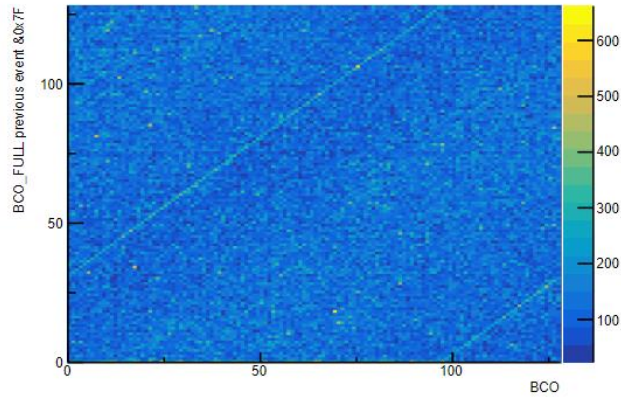


Mixup Multiplicity 41502 intt1

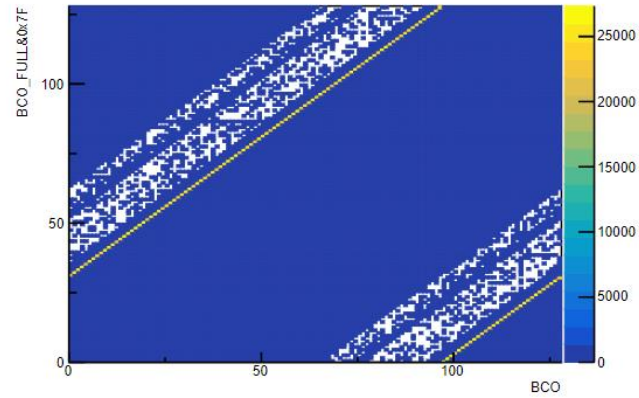


Run41502 intt2

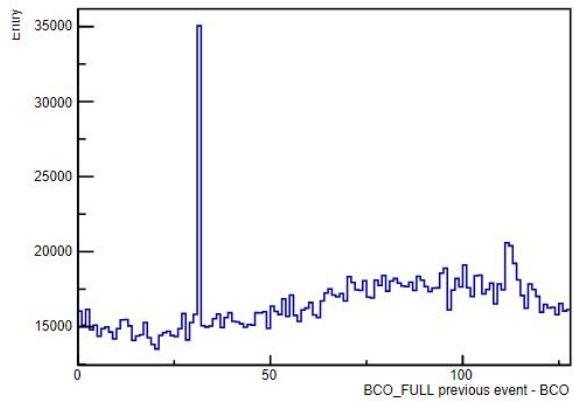
bco_full&0x7F_prev vs bco 41502 intt2



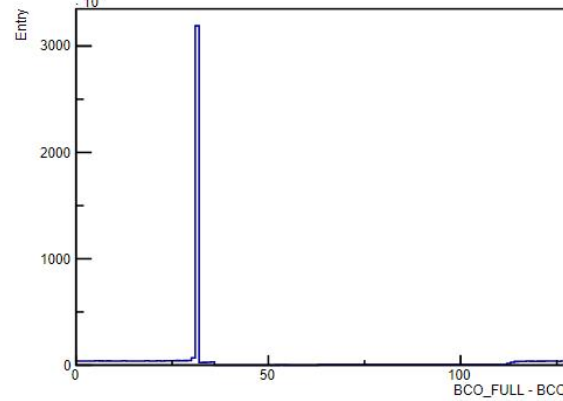
bco_full&0x7F vs bco 41502 intt2



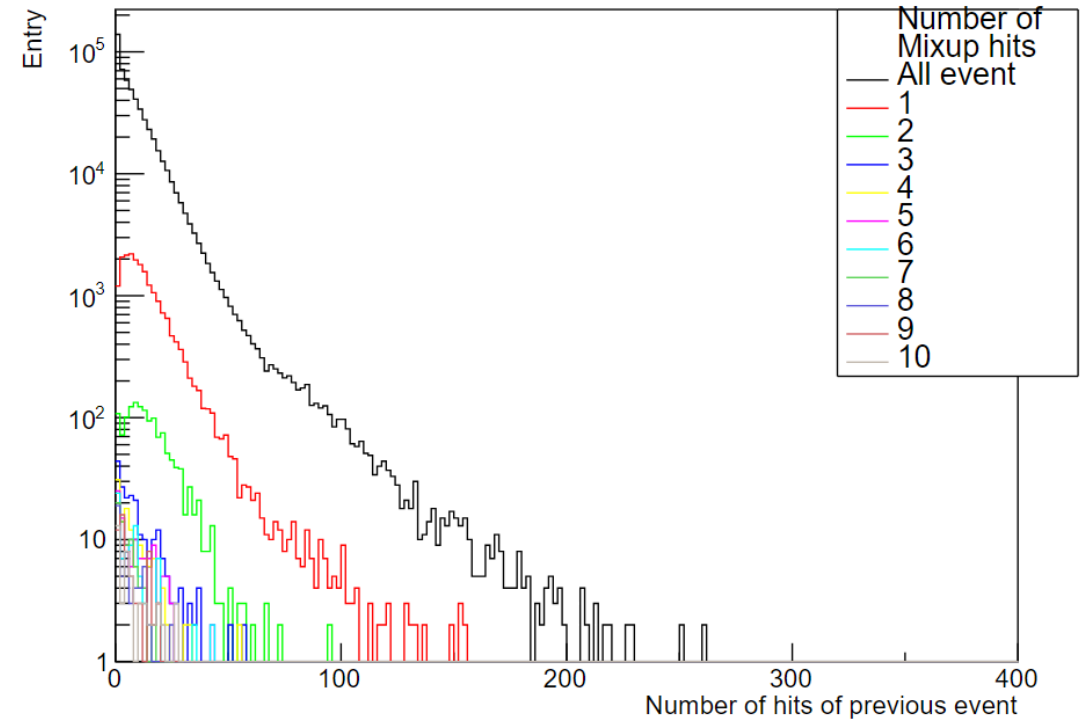
bco_full_prev-bco 41502 intt2



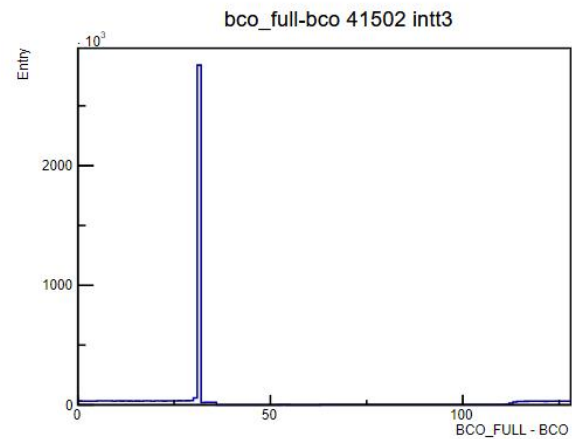
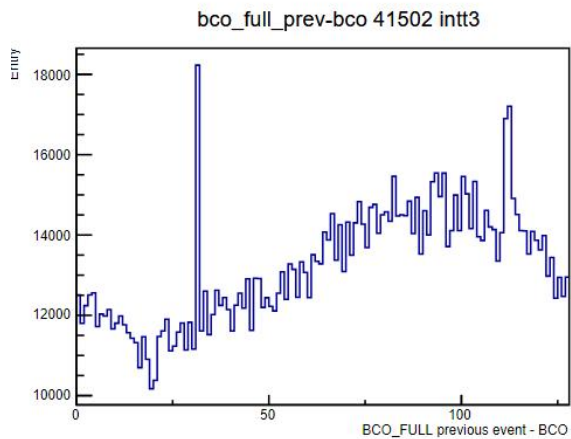
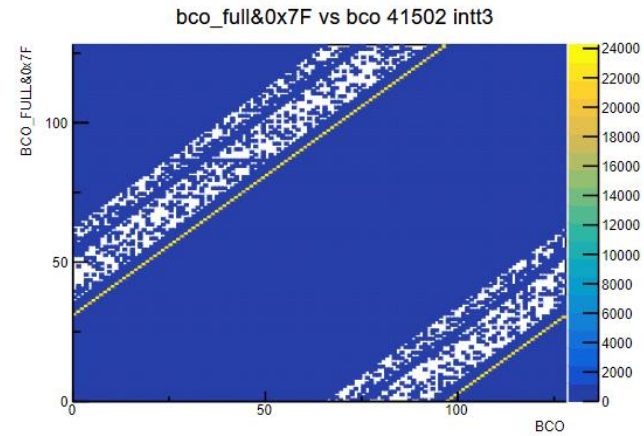
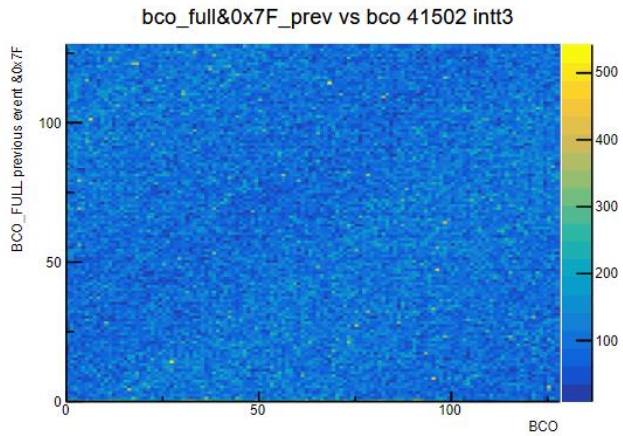
bco_full-bco 41502 intt2



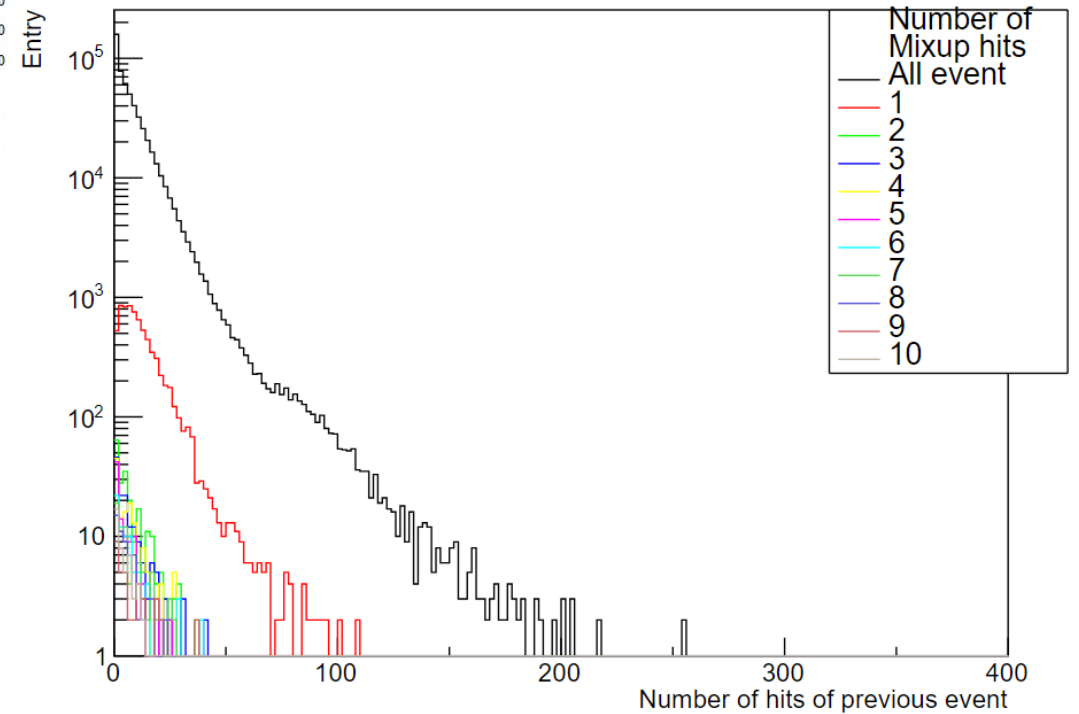
Mixup Multiplicity 41502 intt2



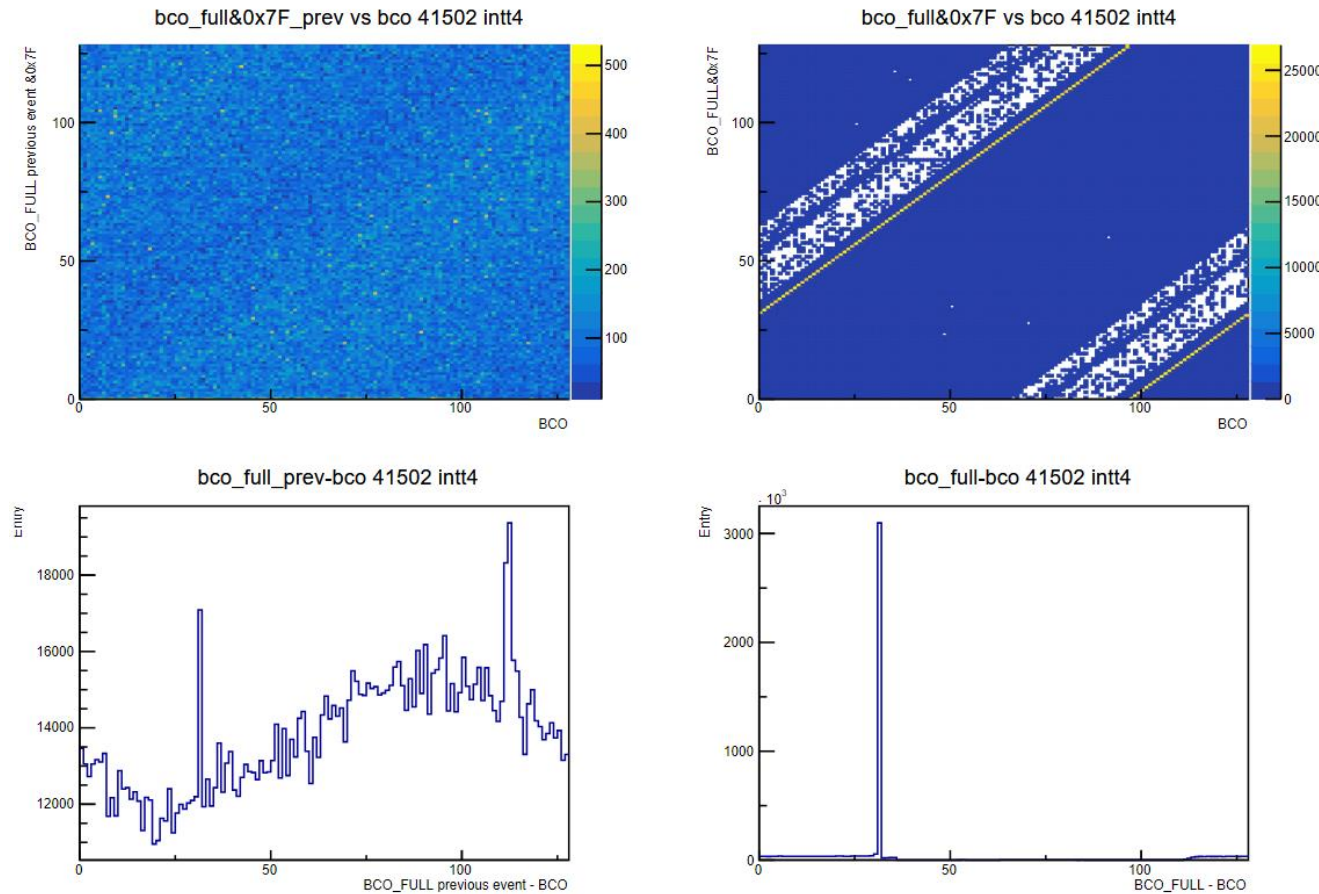
Run41502 intt3



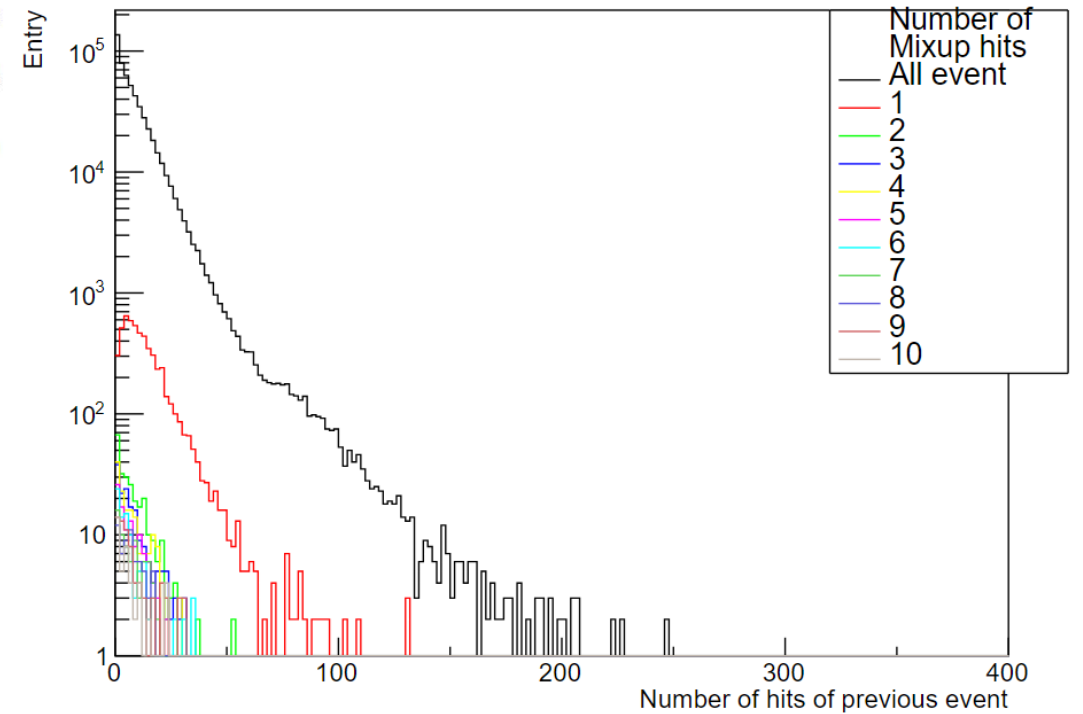
Mixup Multiplicity 41502 intt3



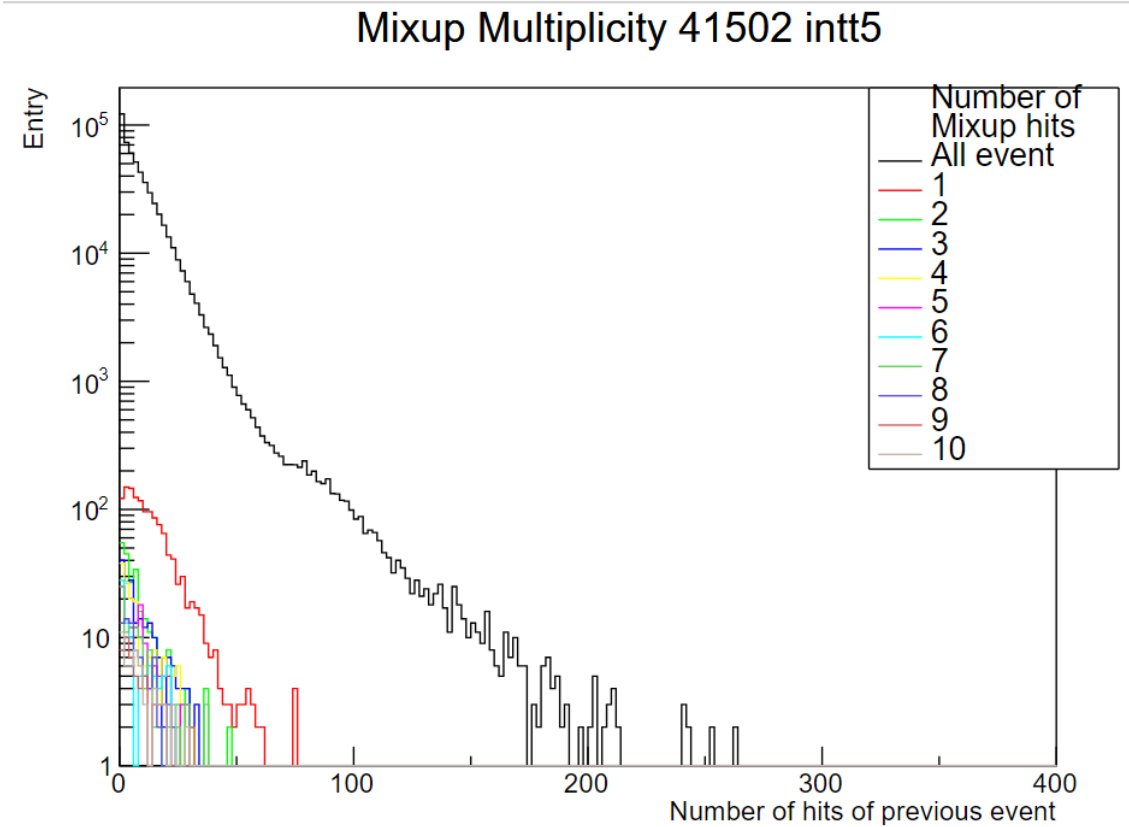
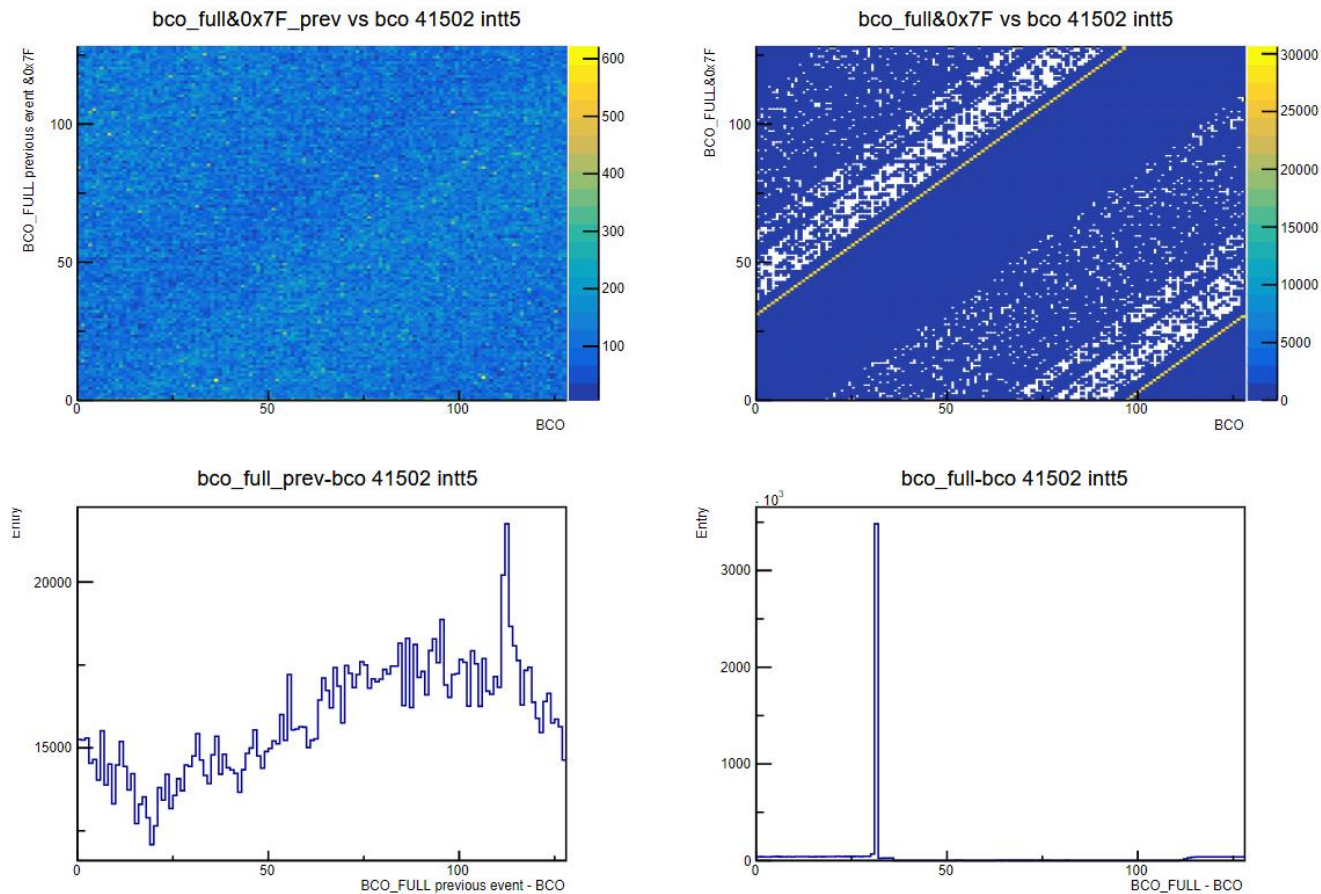
Run41502 intt4



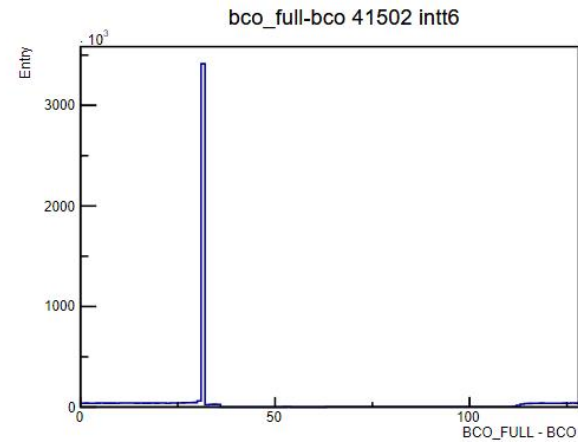
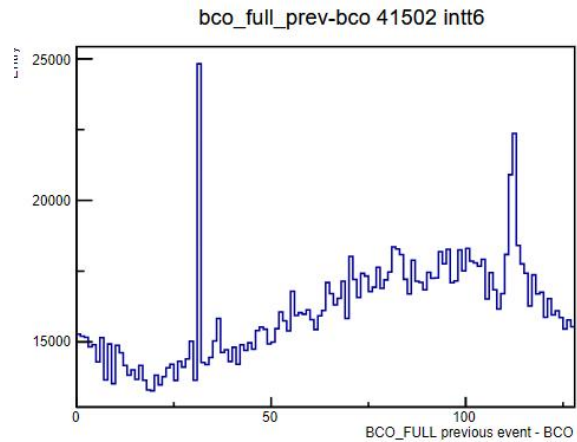
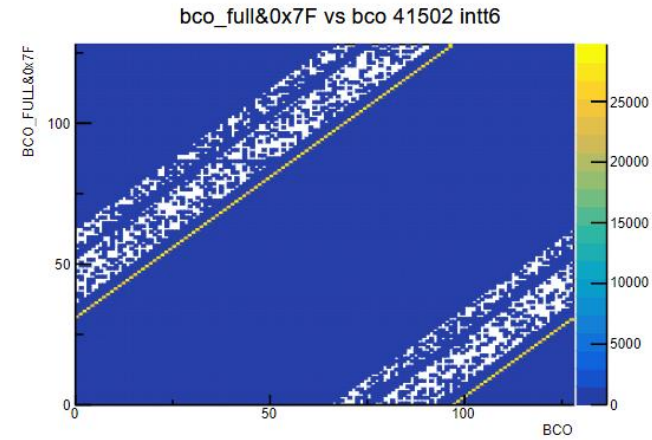
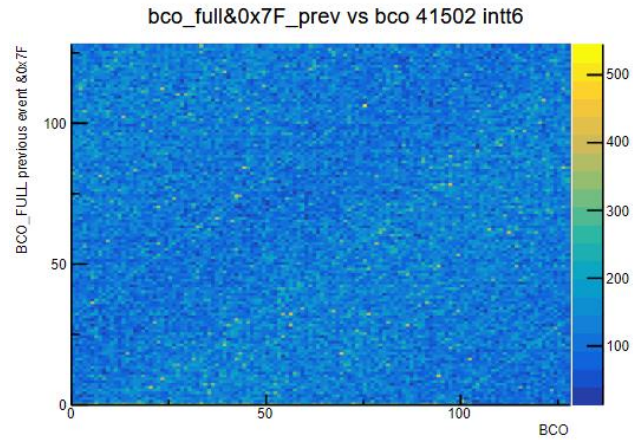
Mixup Multiplicity 41502 intt4



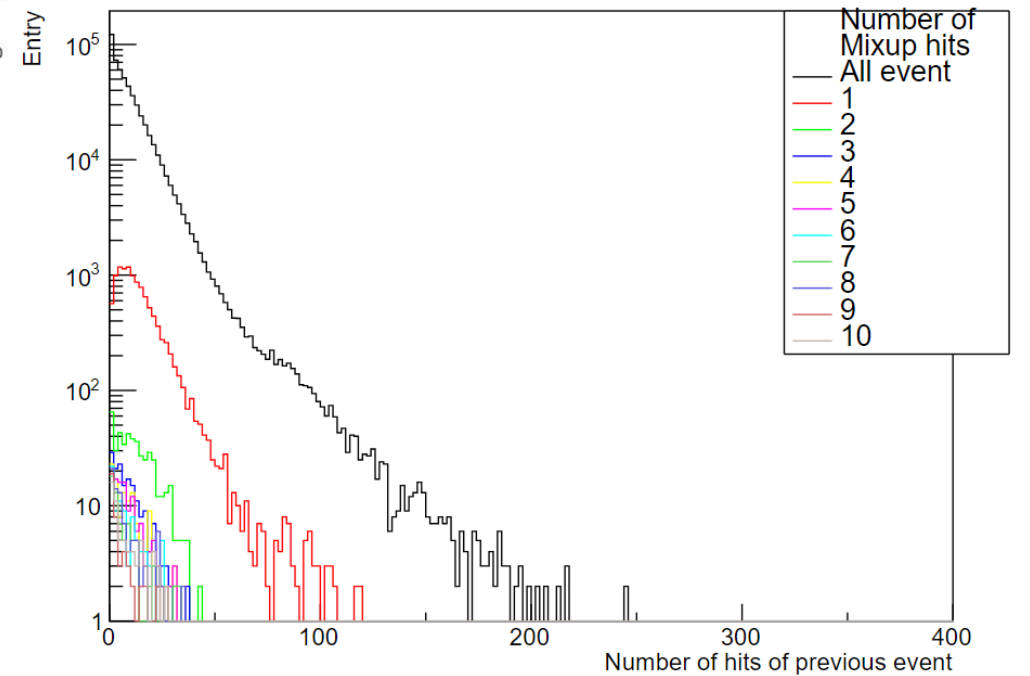
Run41502 intt5



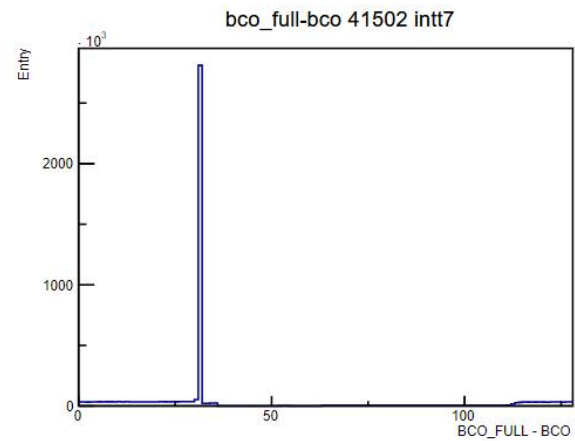
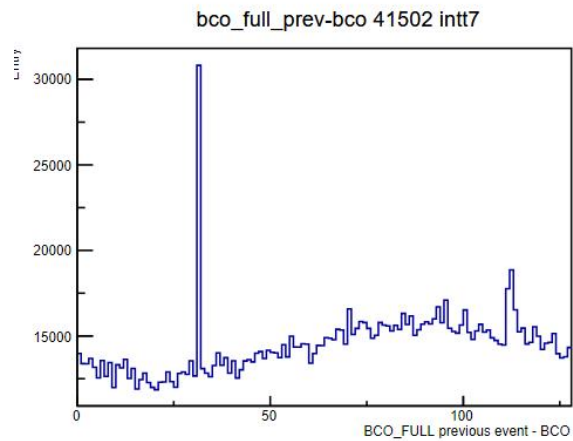
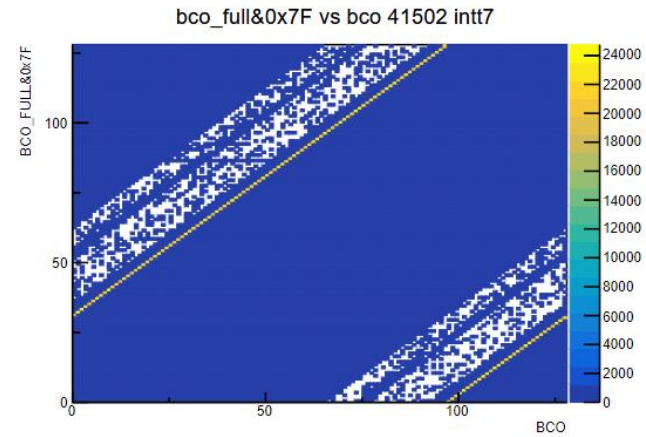
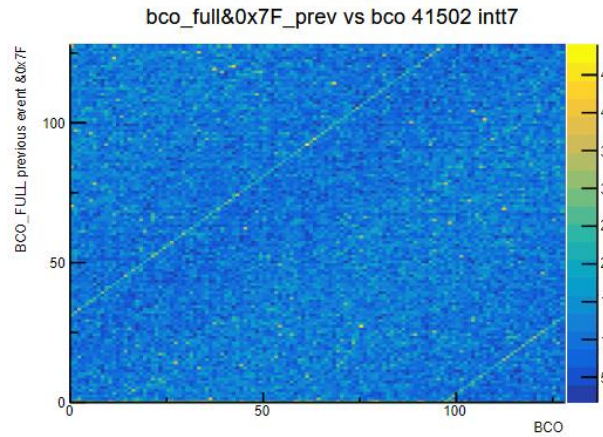
Run41502 intt6



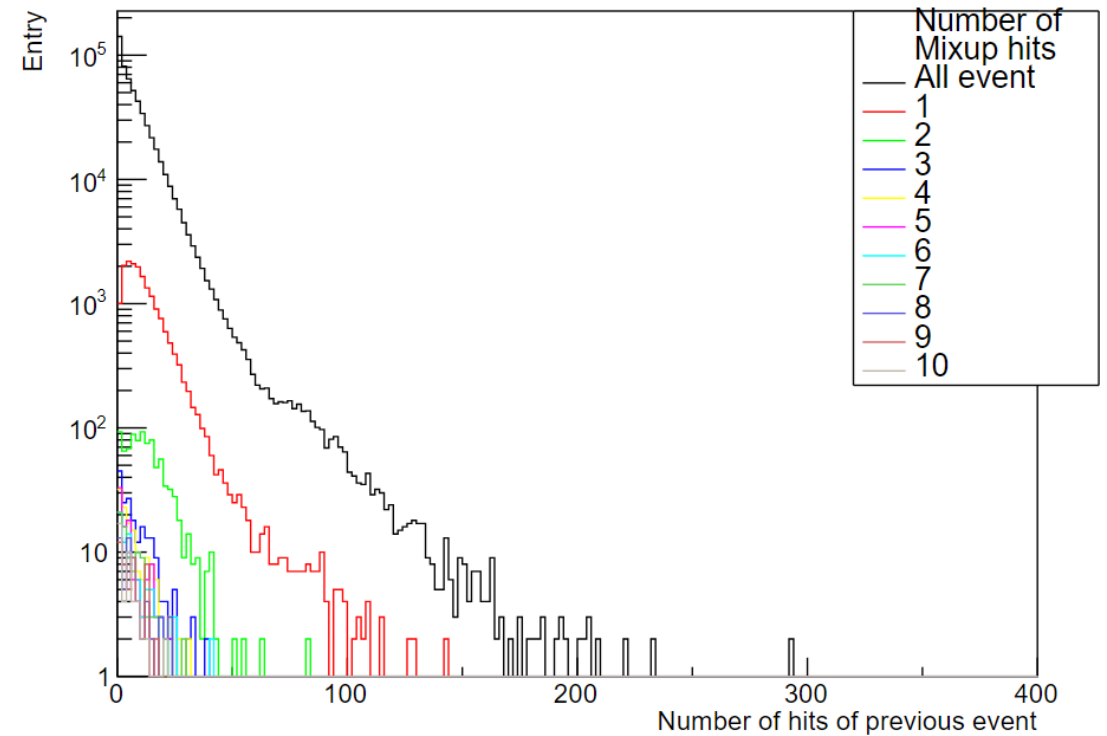
Mixup Multiplicity 41502 intt6



Run41502 intt7

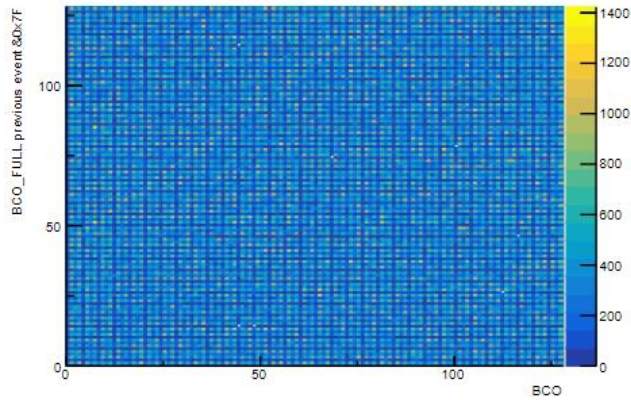


Mixup Multiplicity 41502 intt7

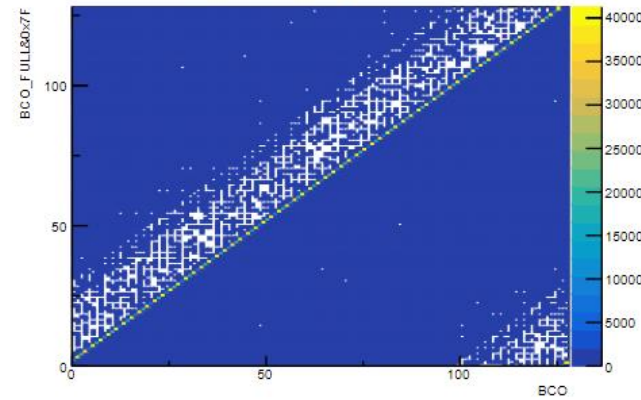


Run43278 intt0

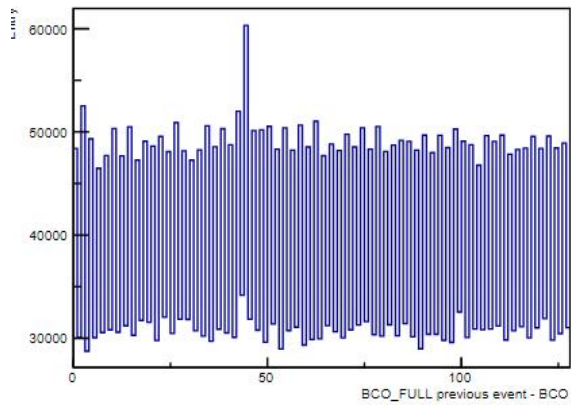
bco_full&0x7F_prev vs bco 43278 intt0



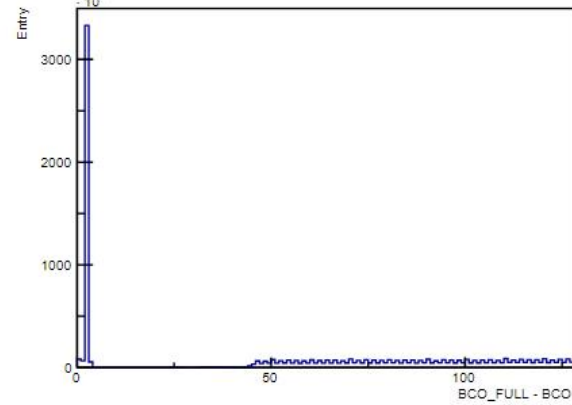
bco_full&0x7F vs bco 43278 intt0



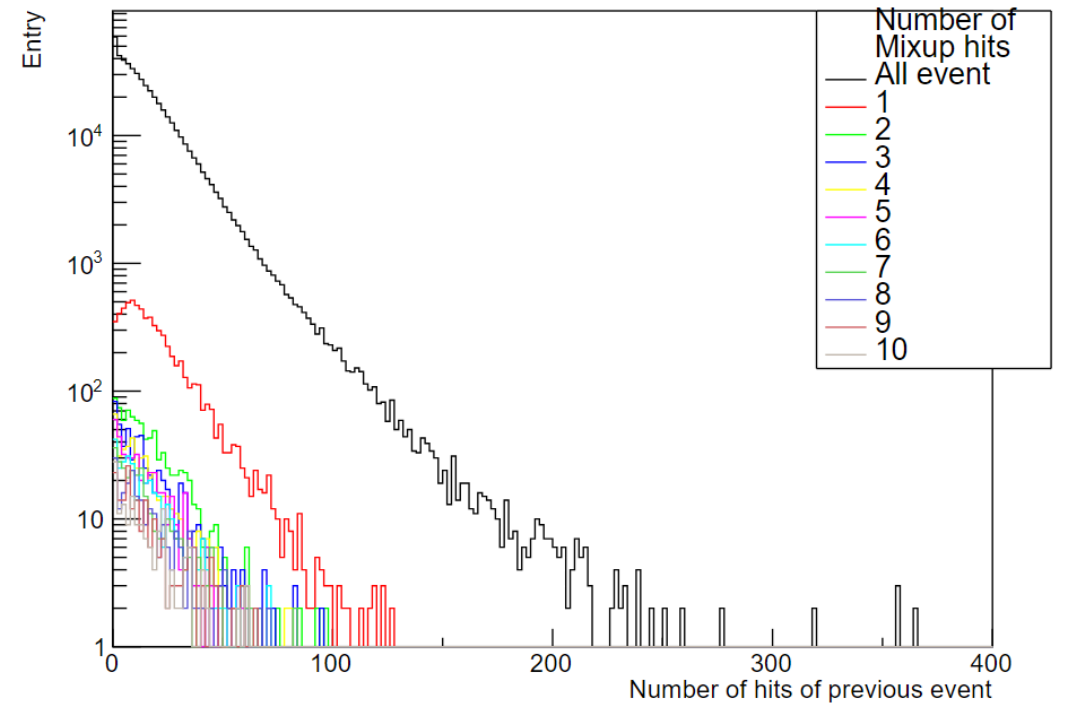
bco_full_prev-bco 43278 intt0



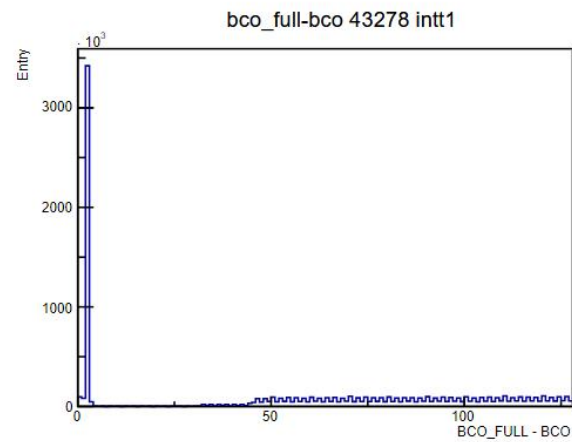
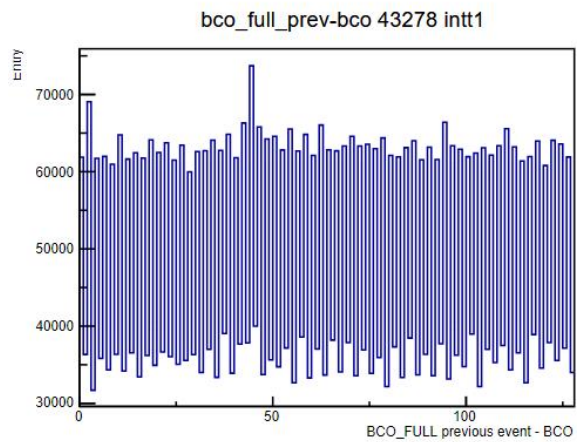
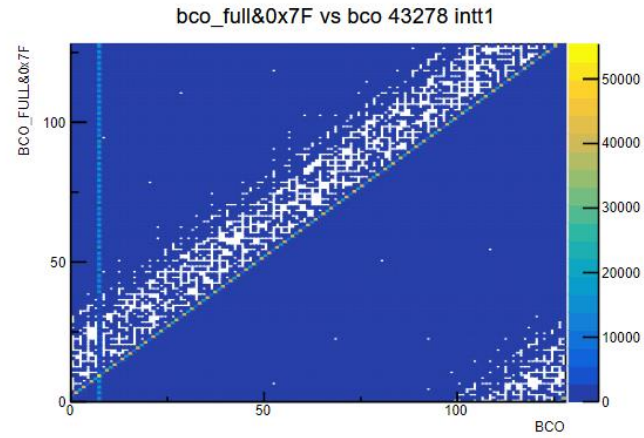
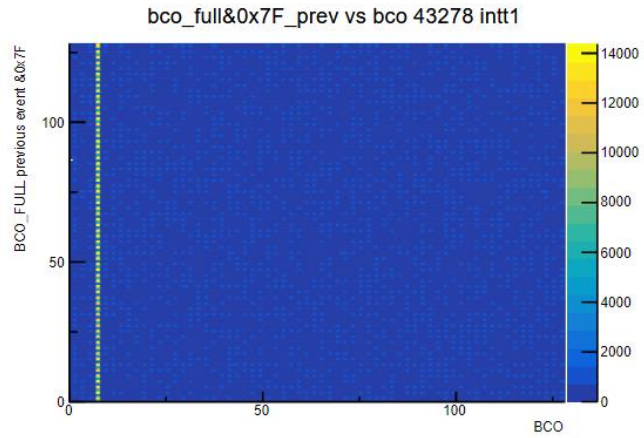
bco_full-bco 43278 intt0



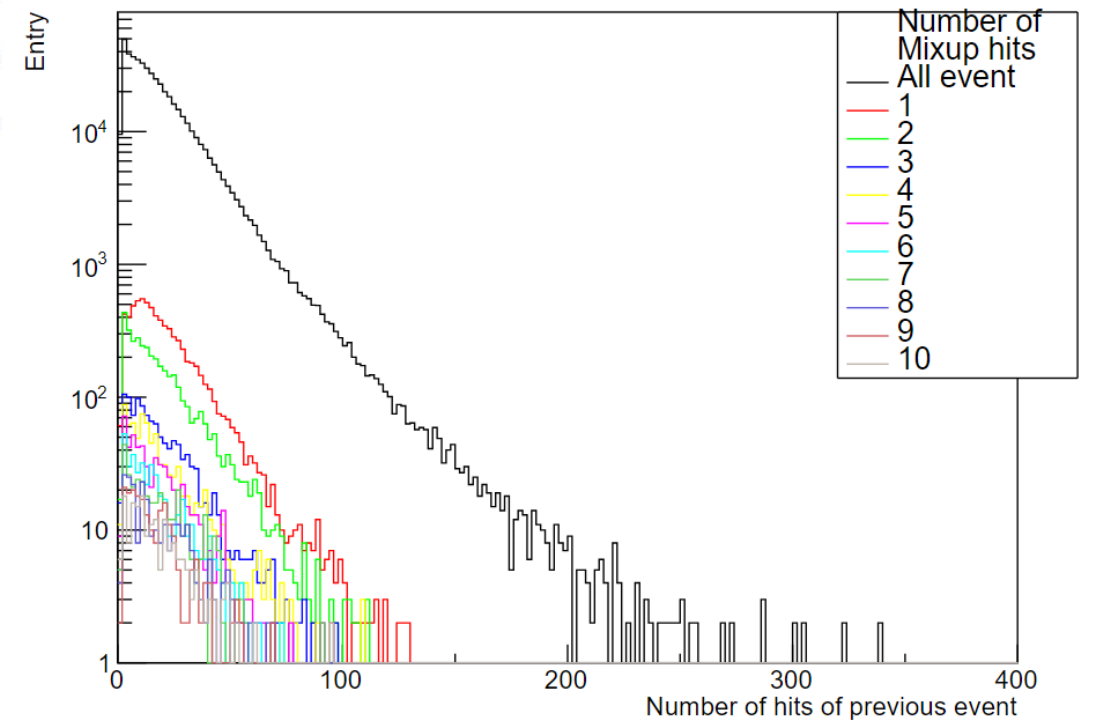
Mixup Multiplicity 43278 intt0



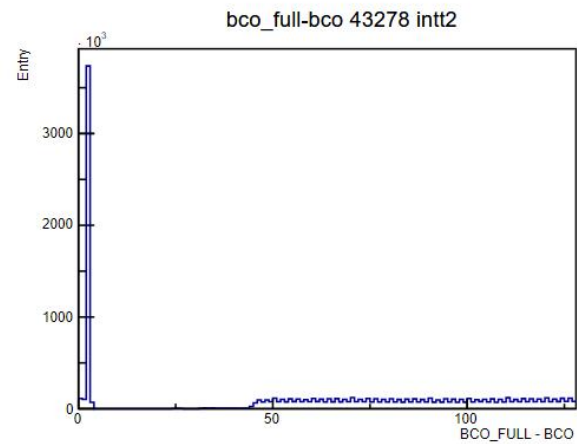
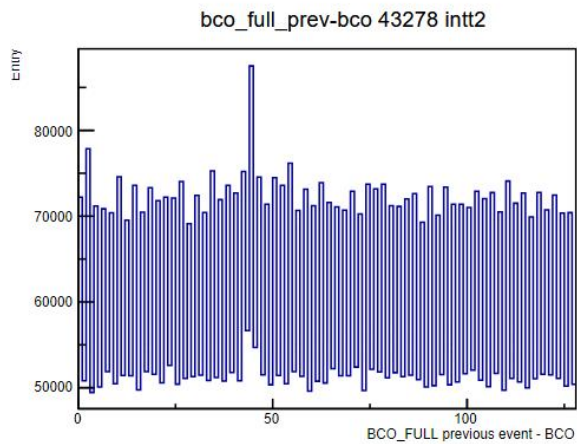
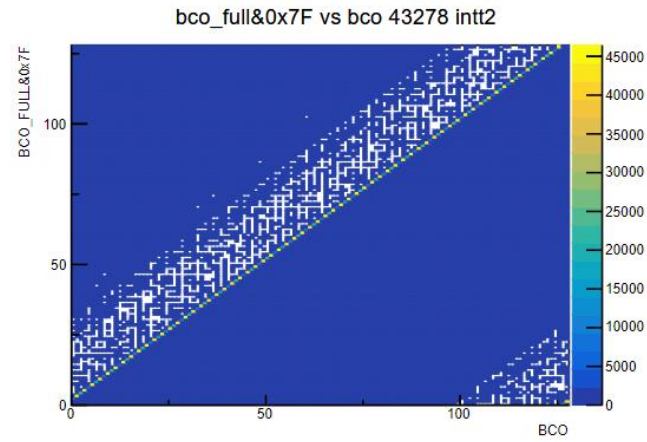
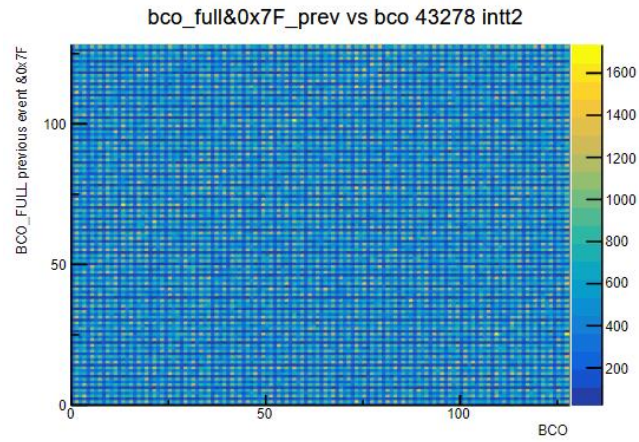
Run43278 intt1



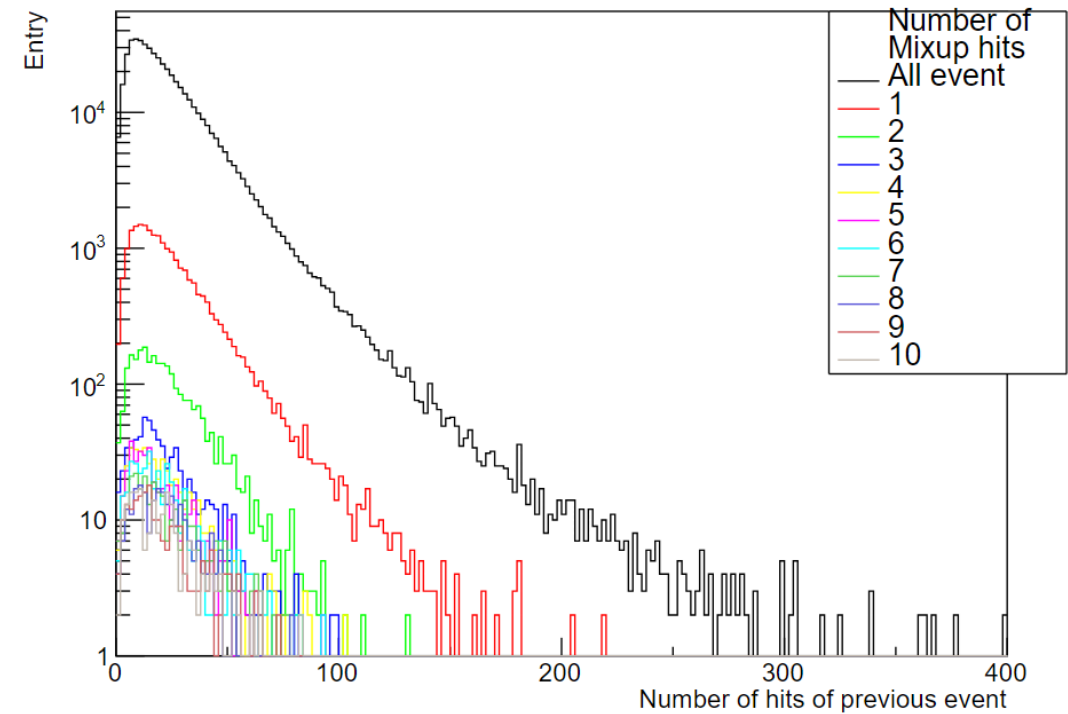
Mixup Multiplicity 43278 intt1



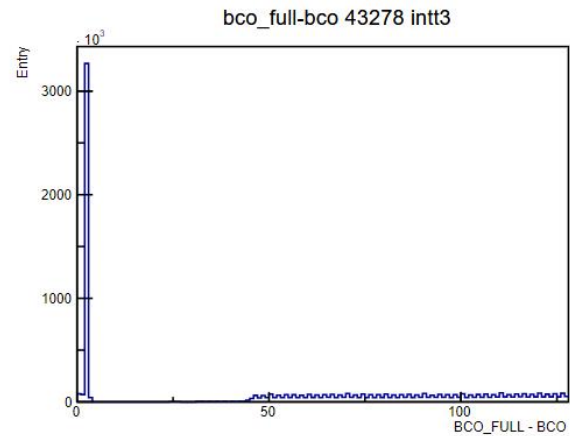
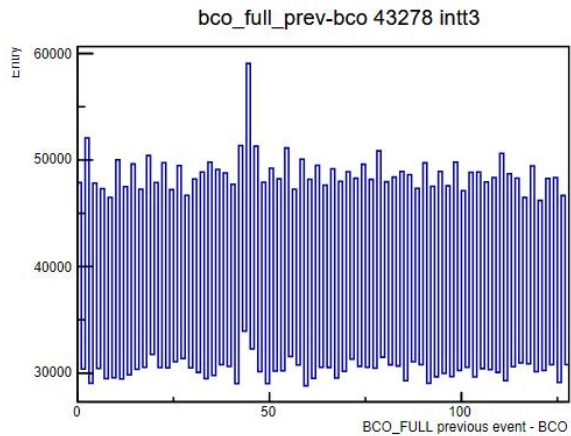
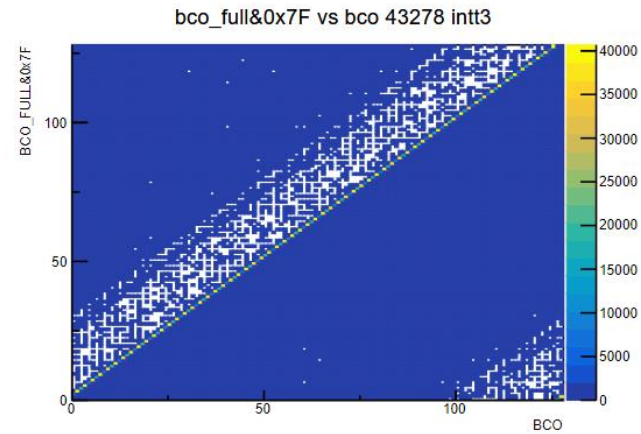
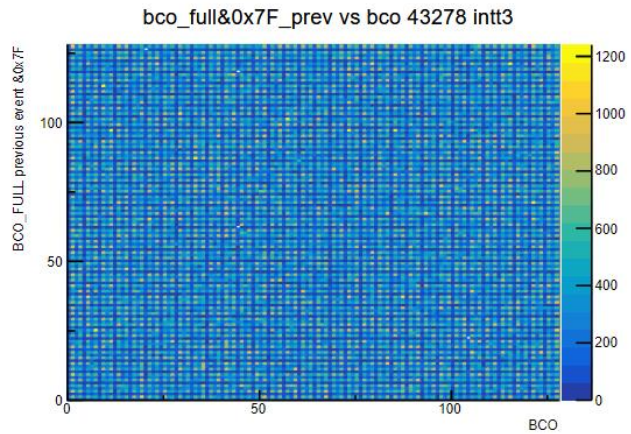
Run43278 intt2



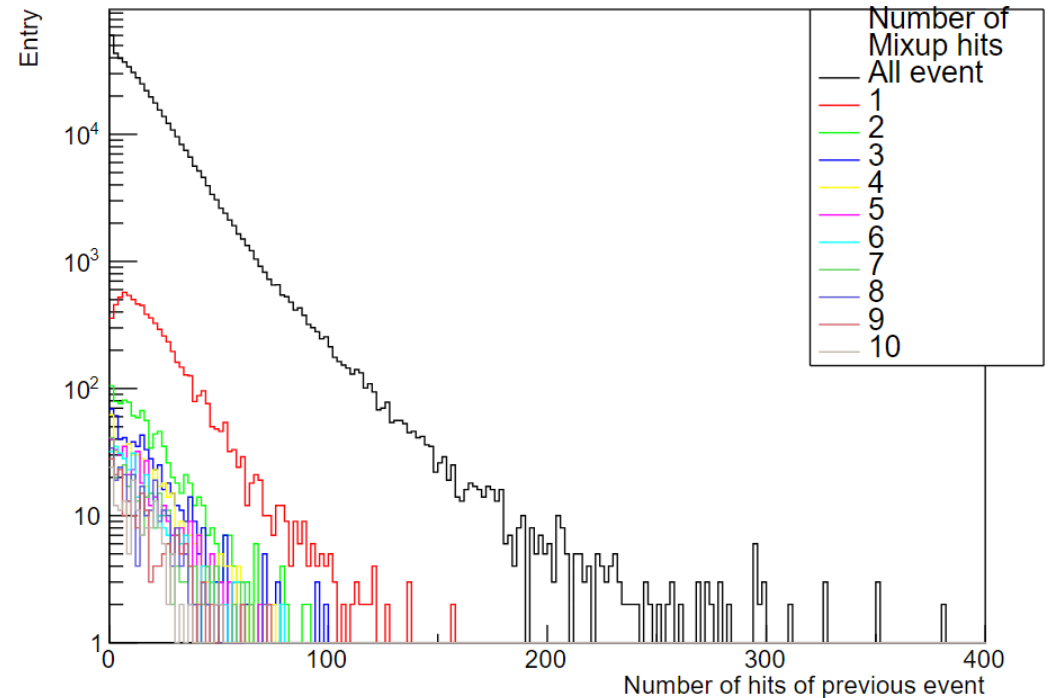
Mixup Multiplicity 43278 intt2



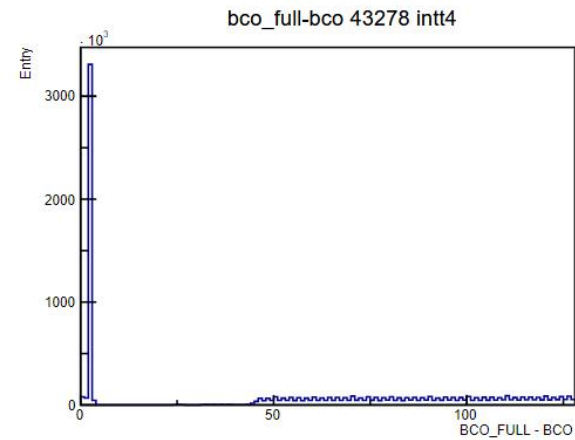
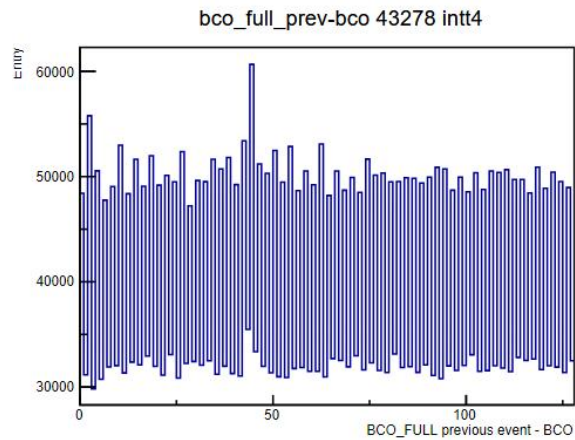
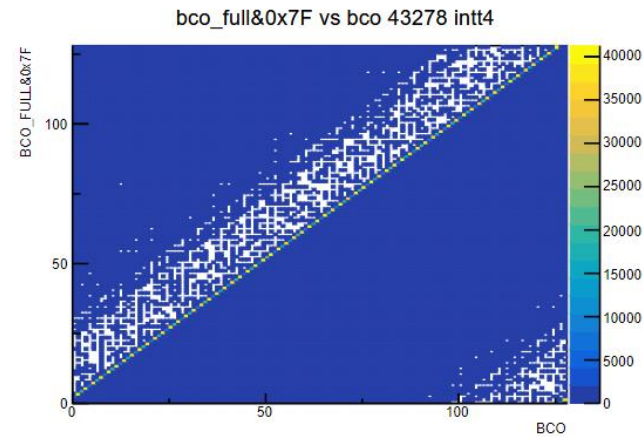
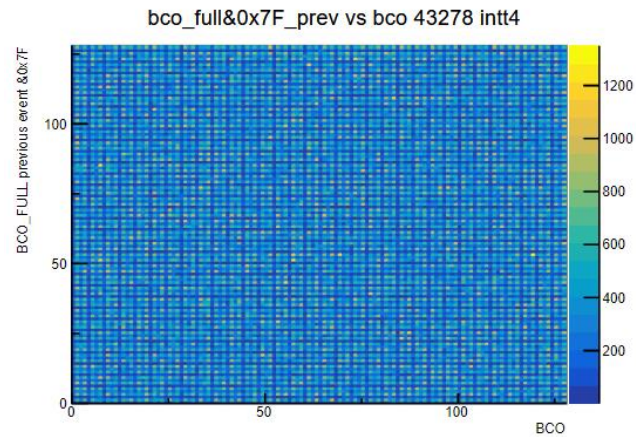
Run43278 intt3



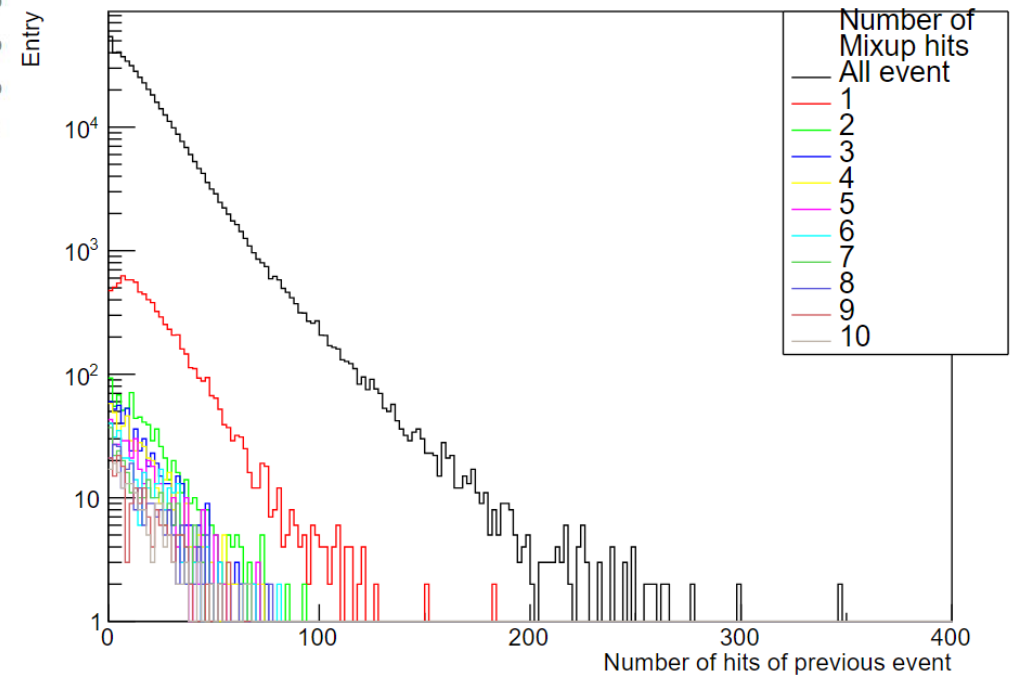
Mixup Multiplicity 43278 intt3



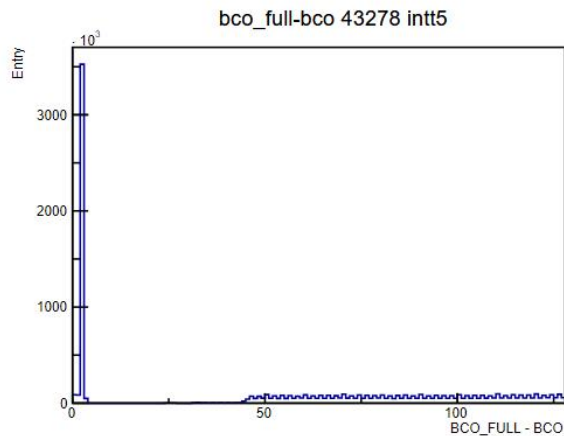
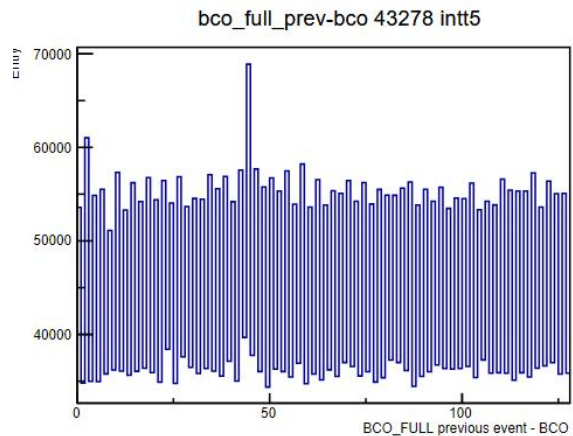
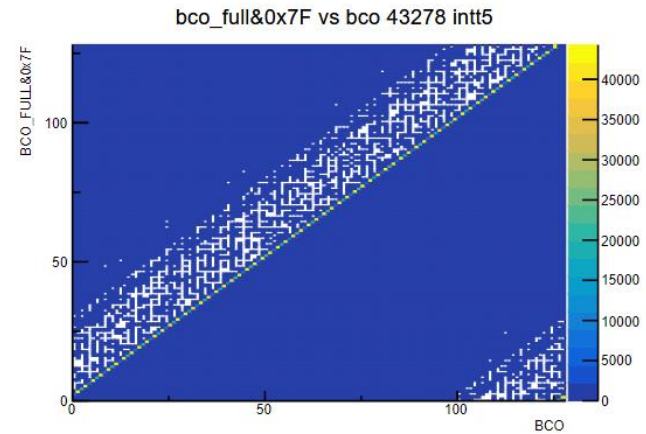
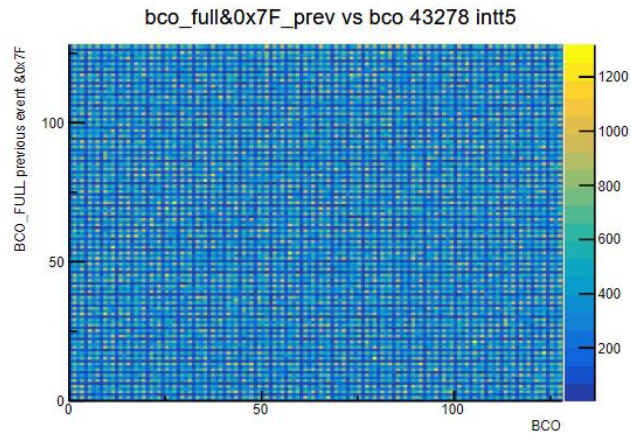
Run43278 intt4



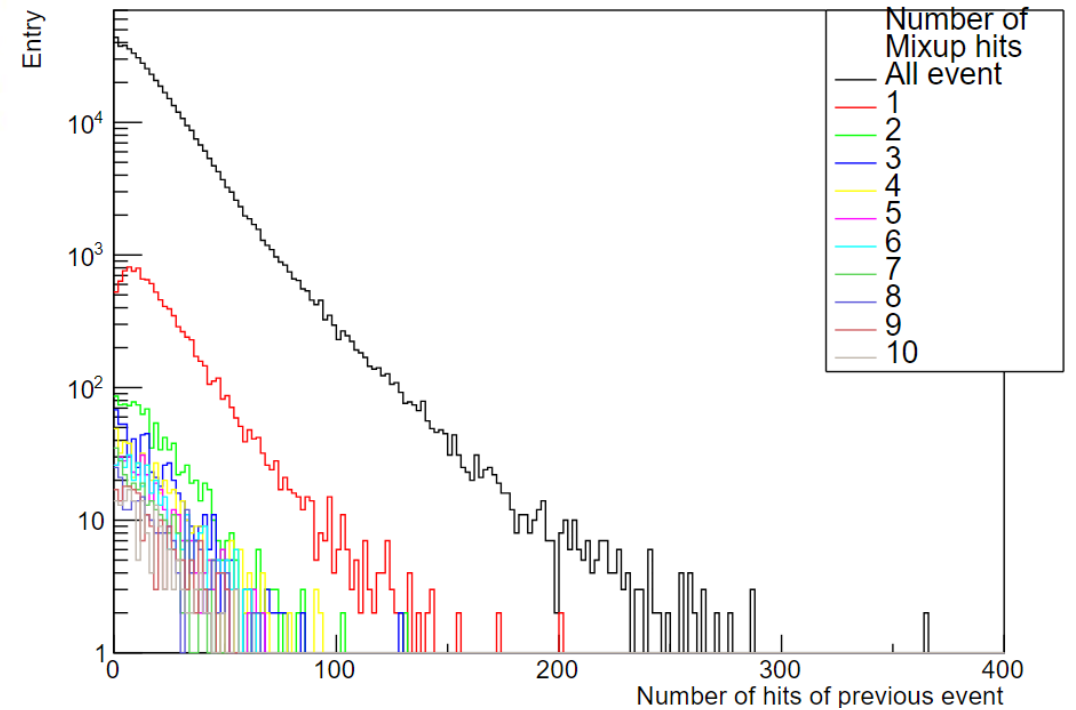
Mixup Multiplicity 43278 intt4



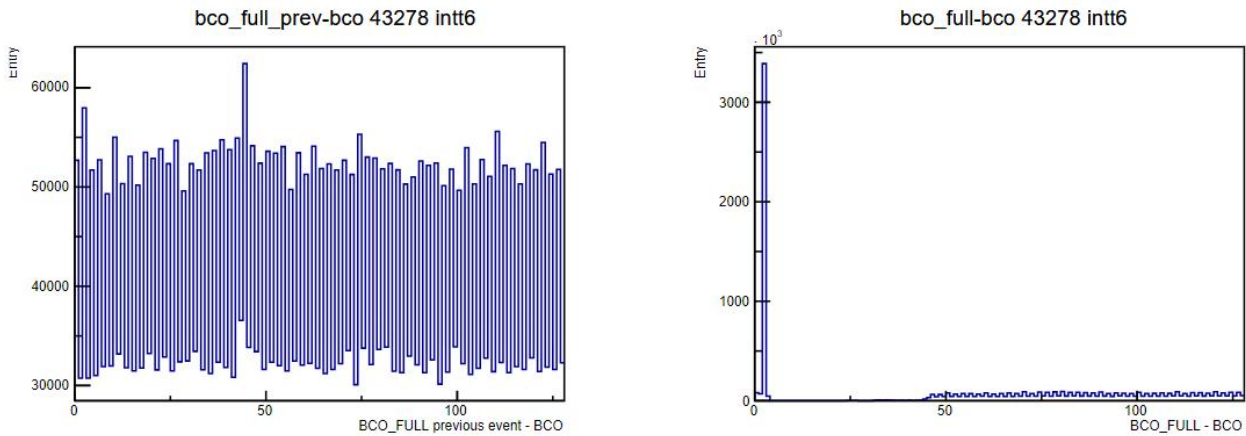
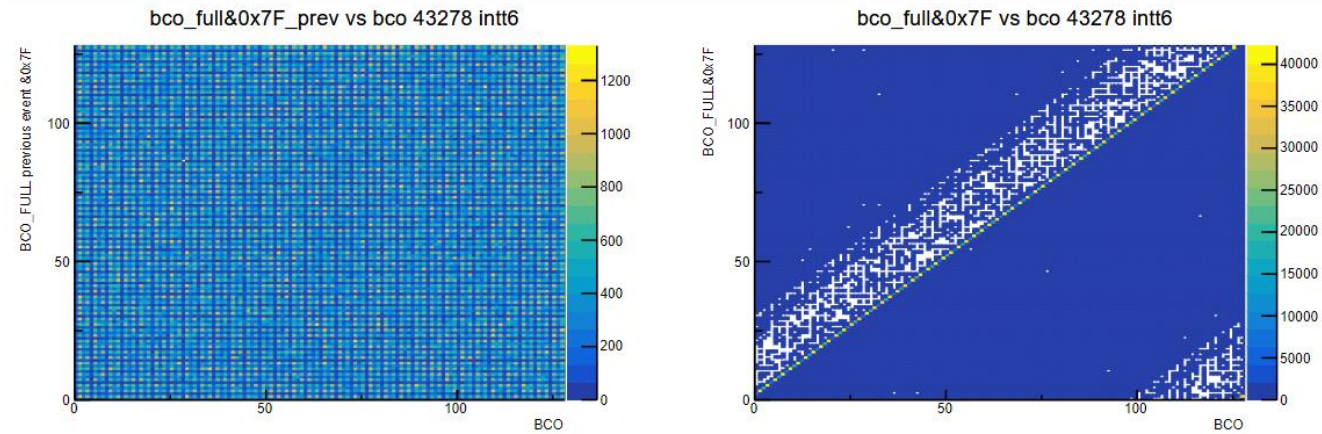
Run43278 intt5



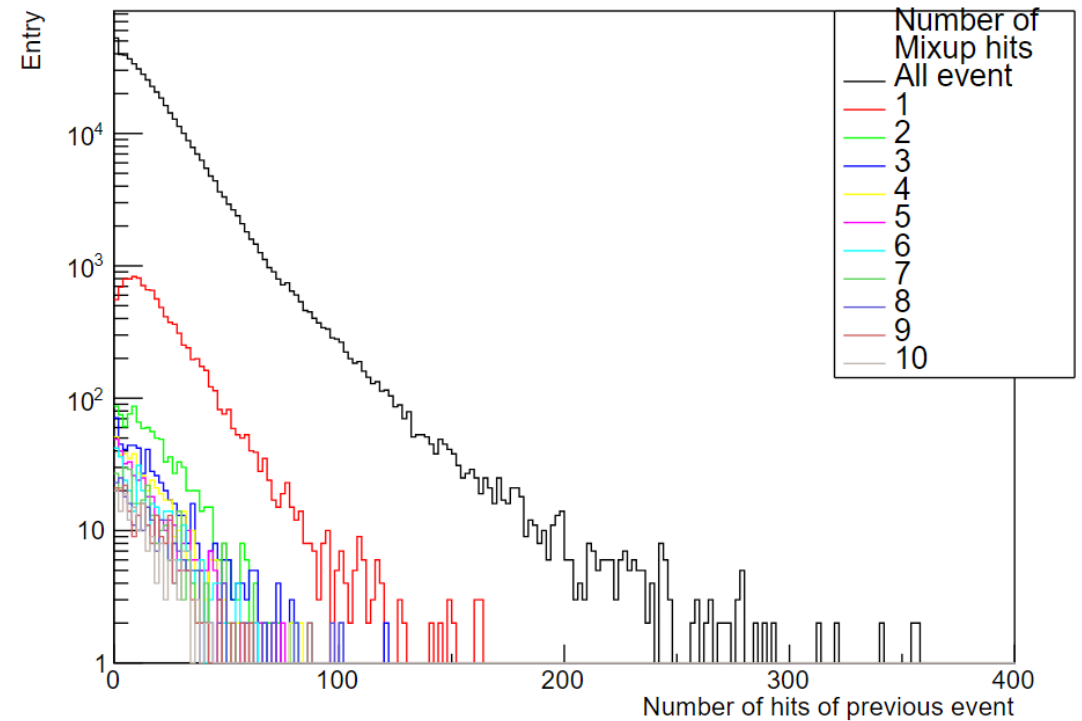
Mixup Multiplicity 43278 intt5



Run43278 intt6

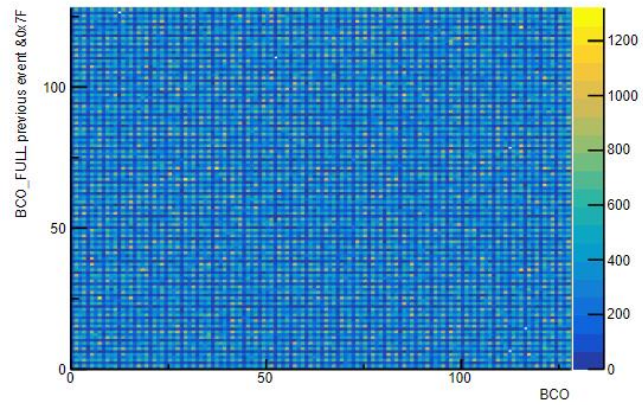


Mixup Multiplicity 43278 intt6

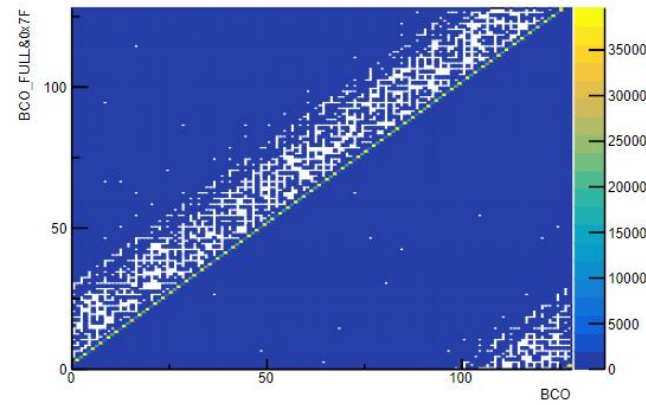


Run43278 intt7

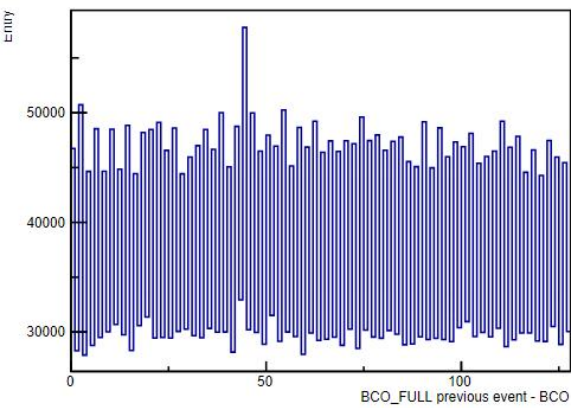
bco_full&0x7F_prev vs bco 43278 intt7



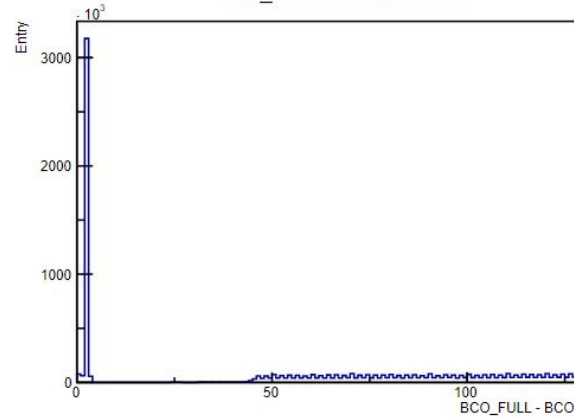
bco_full&0x7F vs bco 43278 intt7



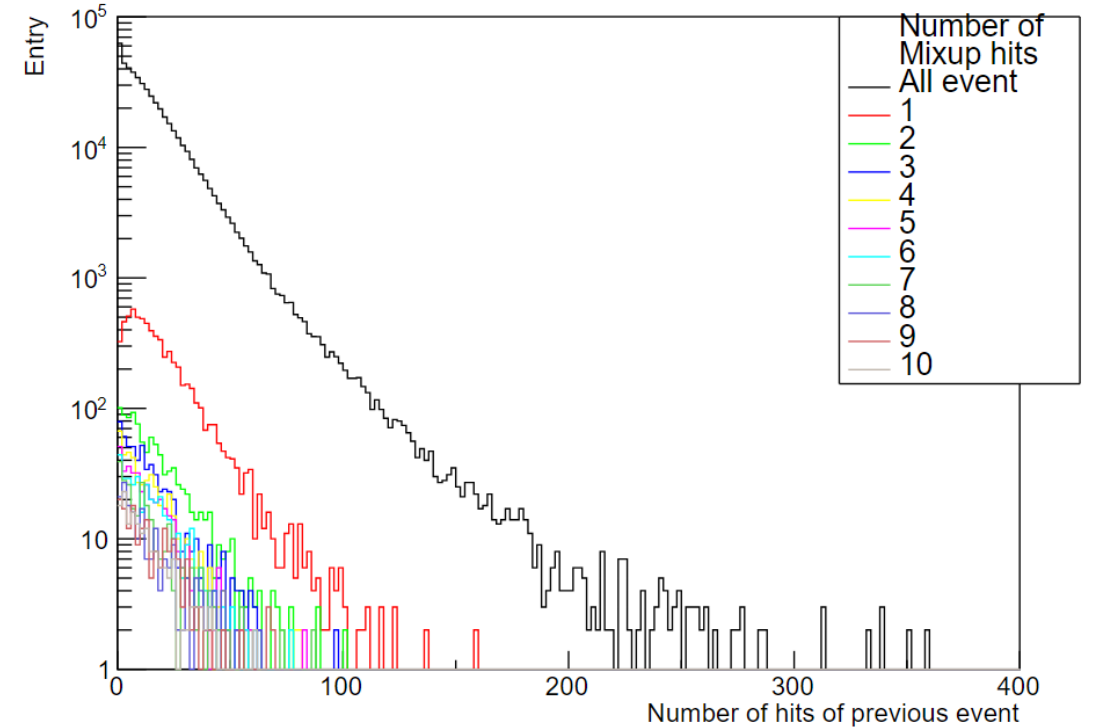
bco_full_prev-bco 43278 intt7



bco_full-bco 43278 intt7

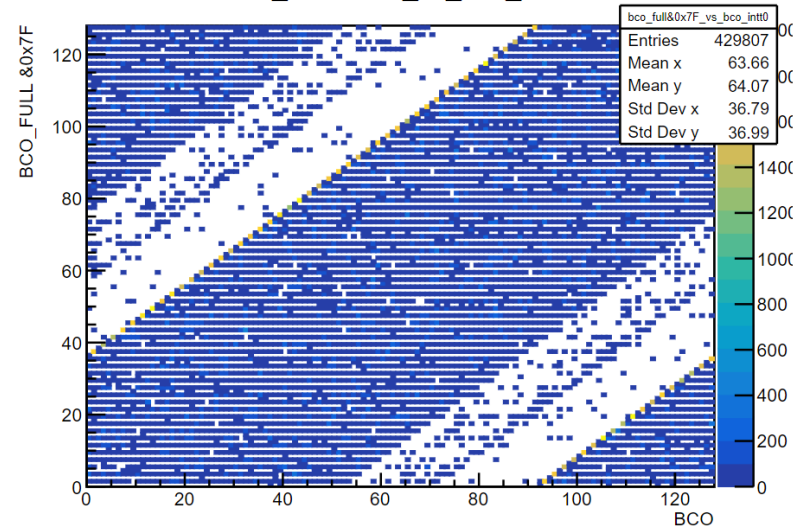


Mixup Multiplicity 43278 intt7

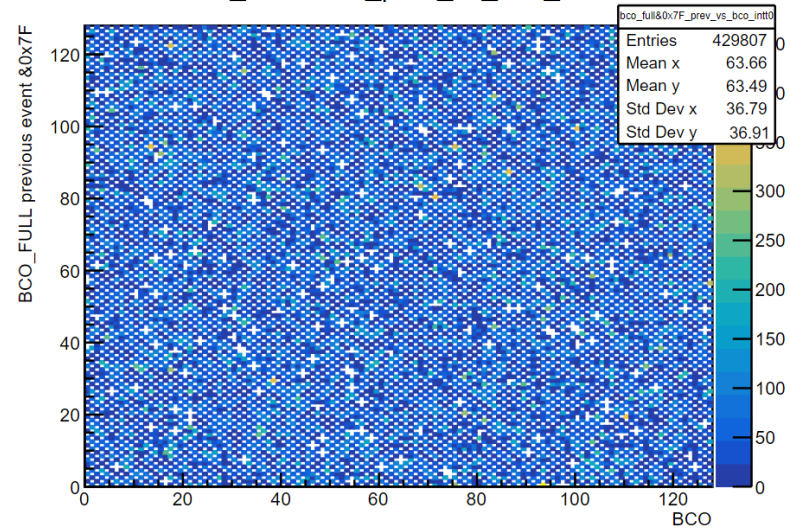


Run44286 intt0

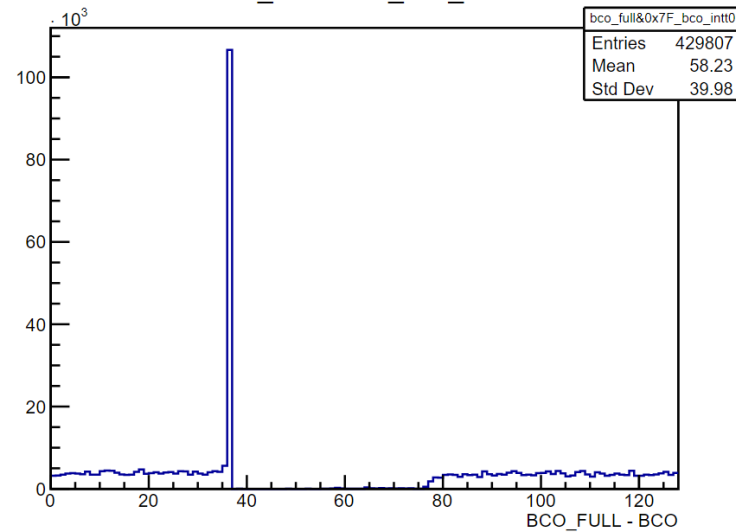
bco_full&0x7F_vs_bco_intt0



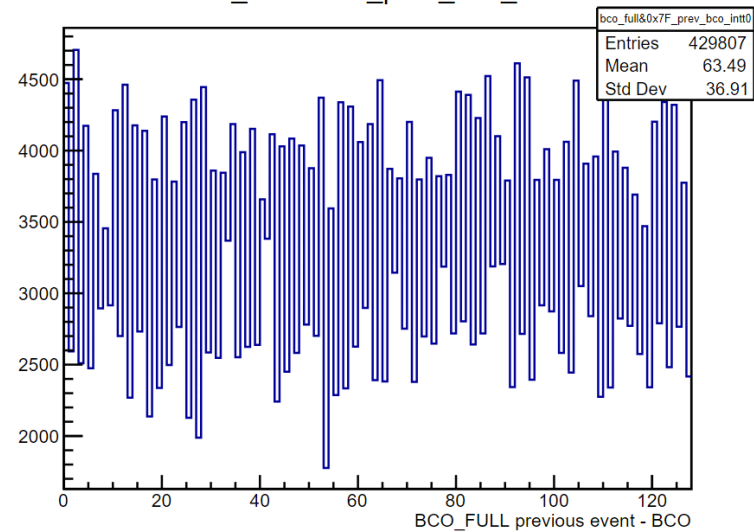
bco_full&0x7F_prev_vs_bco_intt0



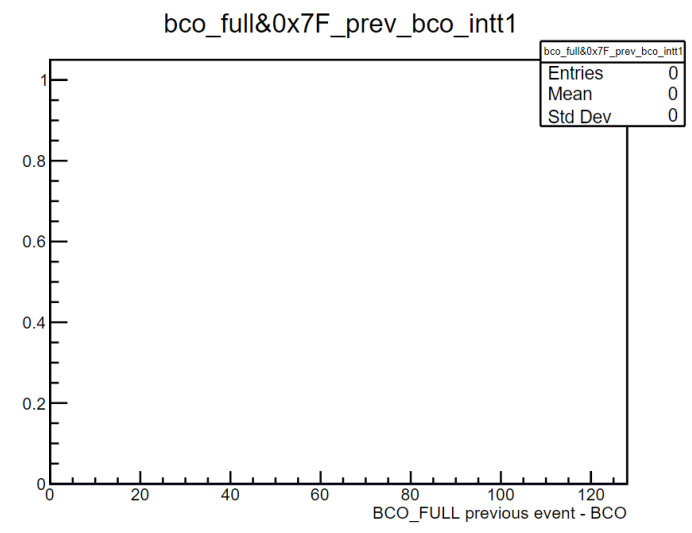
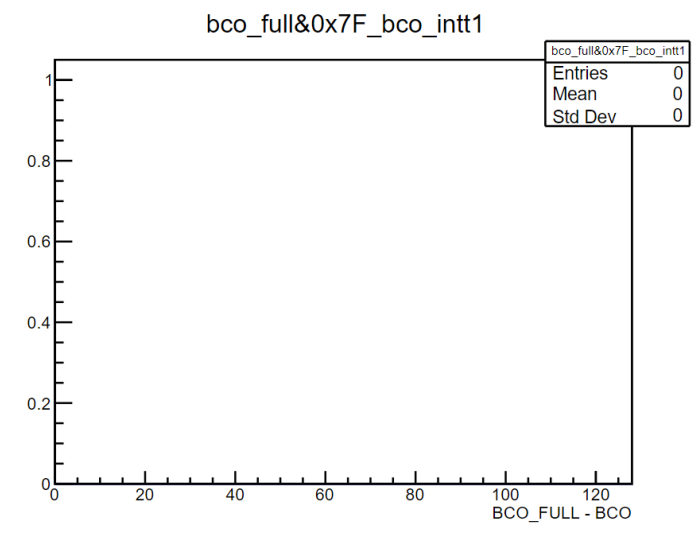
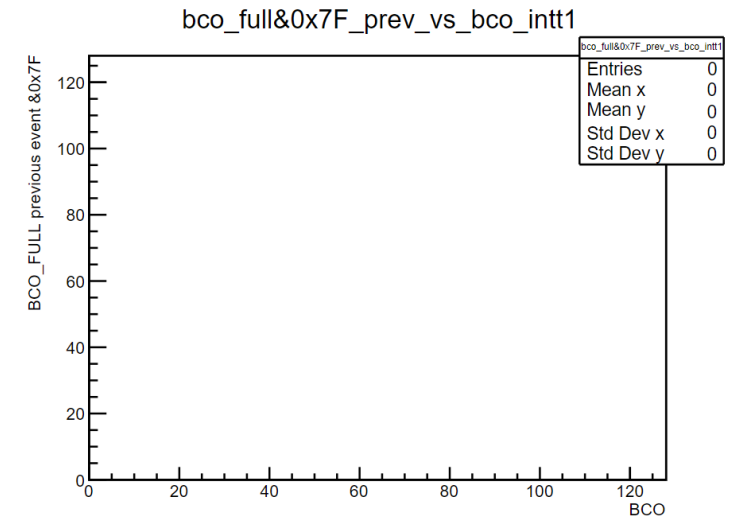
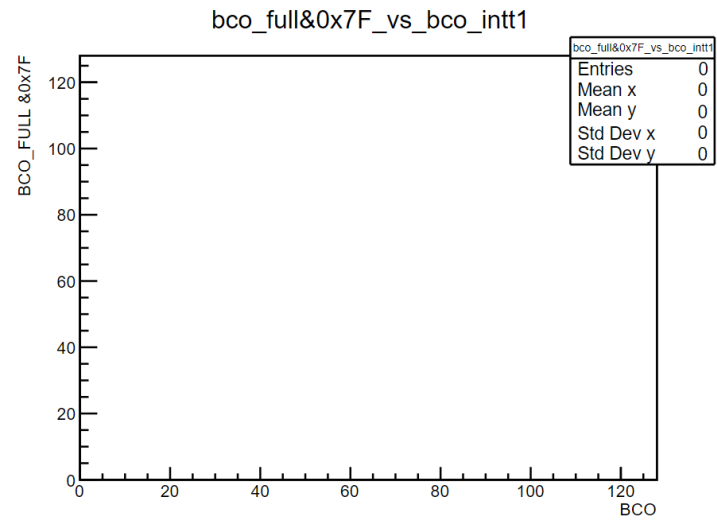
bco_full&0x7F_bco_intt0



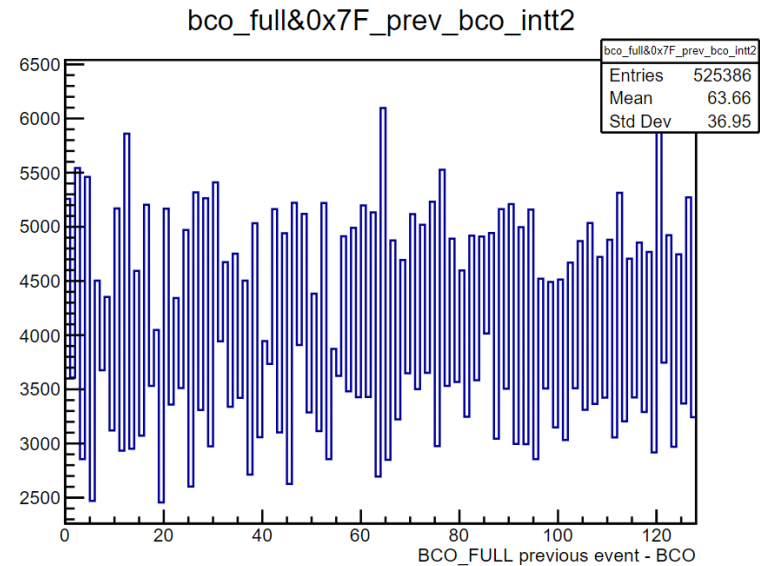
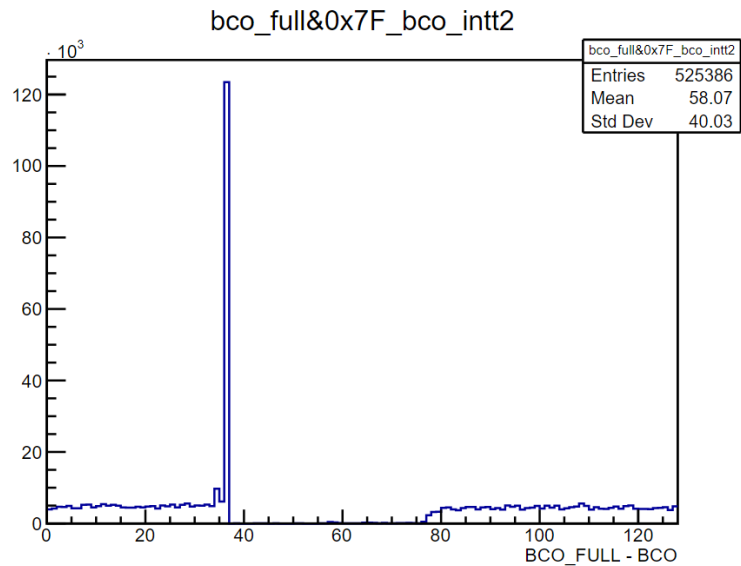
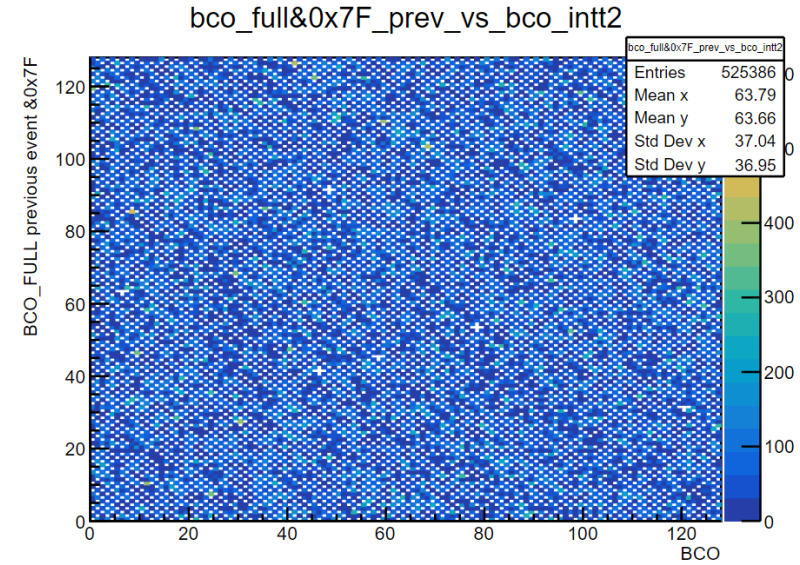
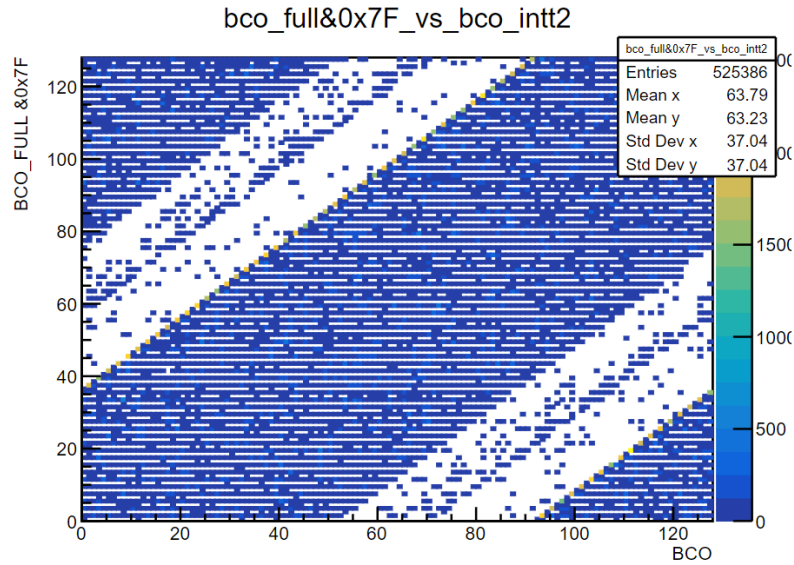
bco_full&0x7F_prev_bco_intt0



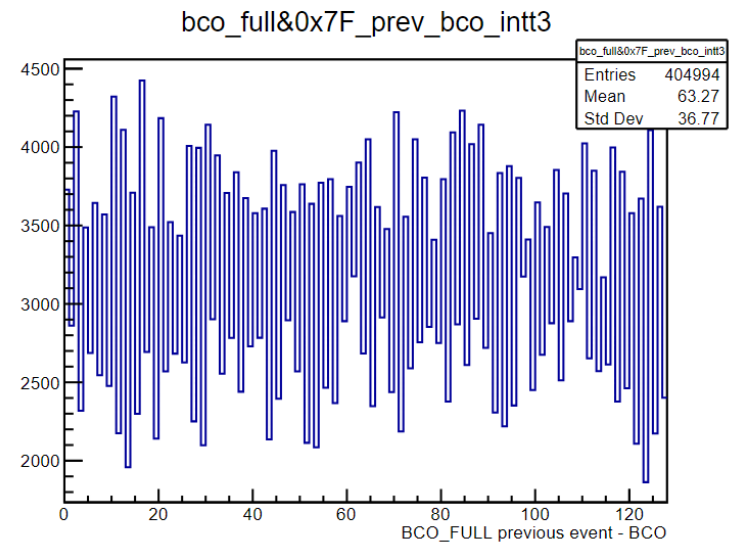
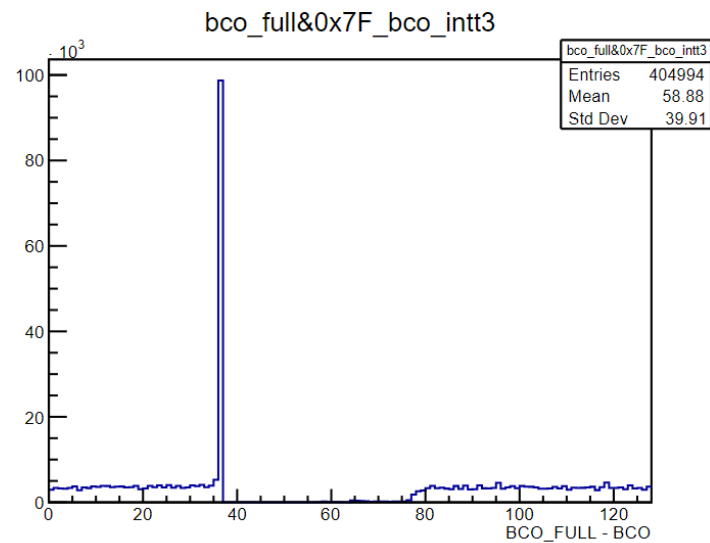
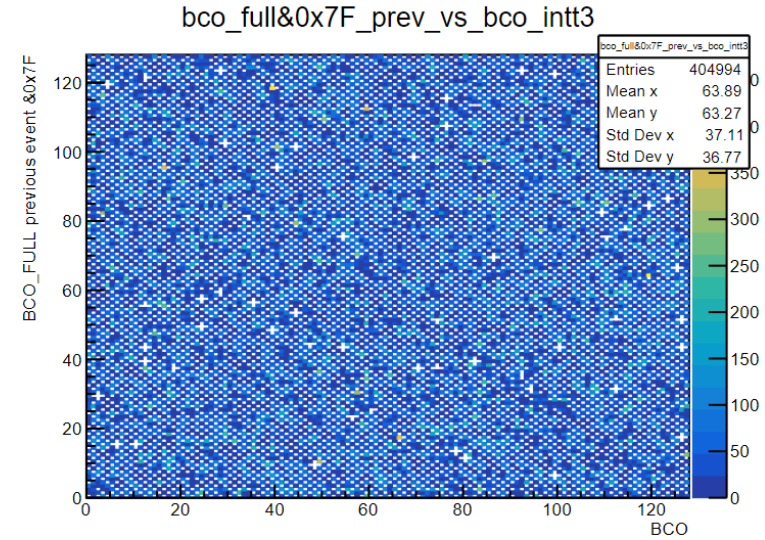
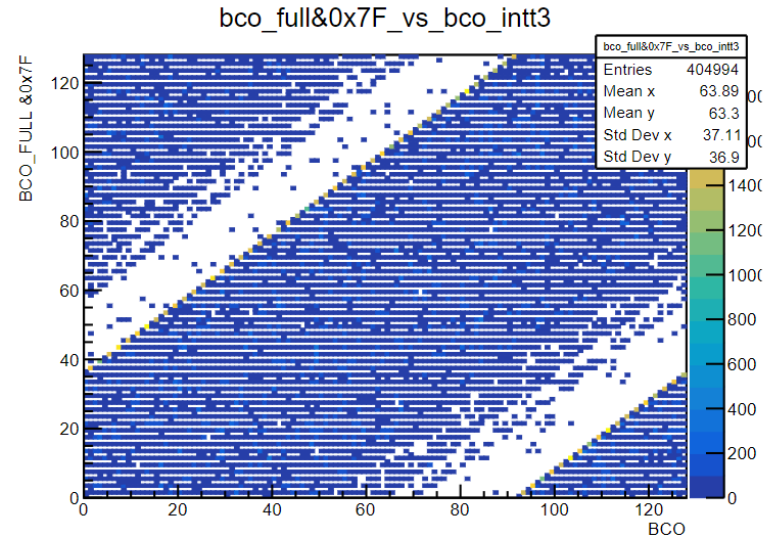
Run44286 intt1 からっぽ? ? ?



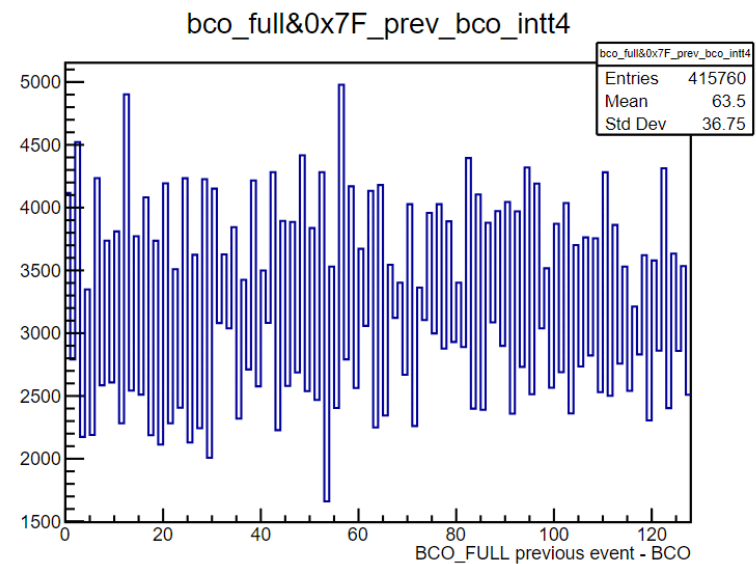
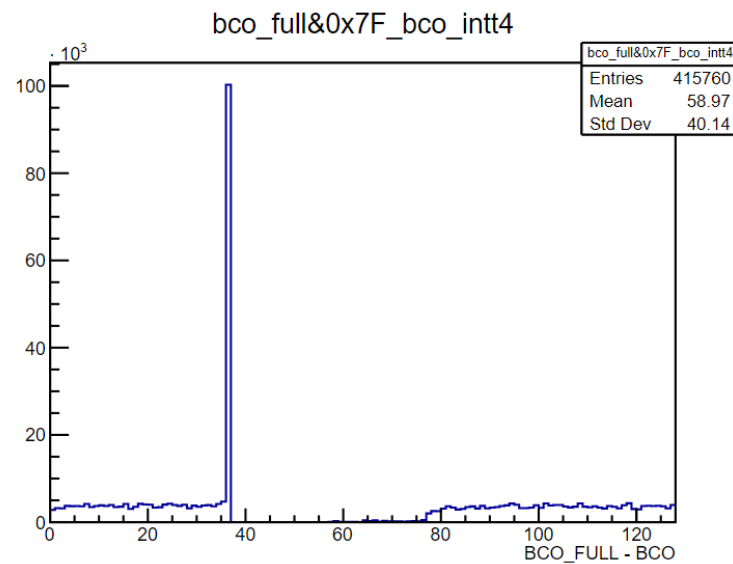
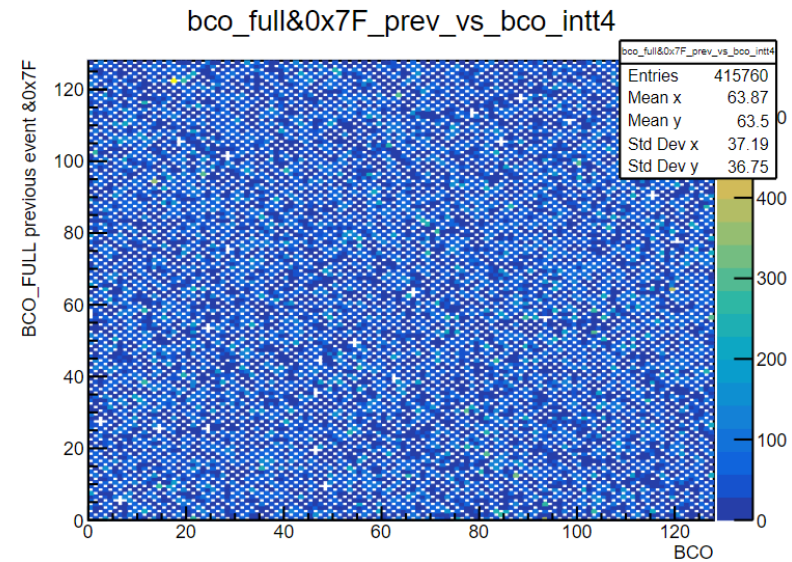
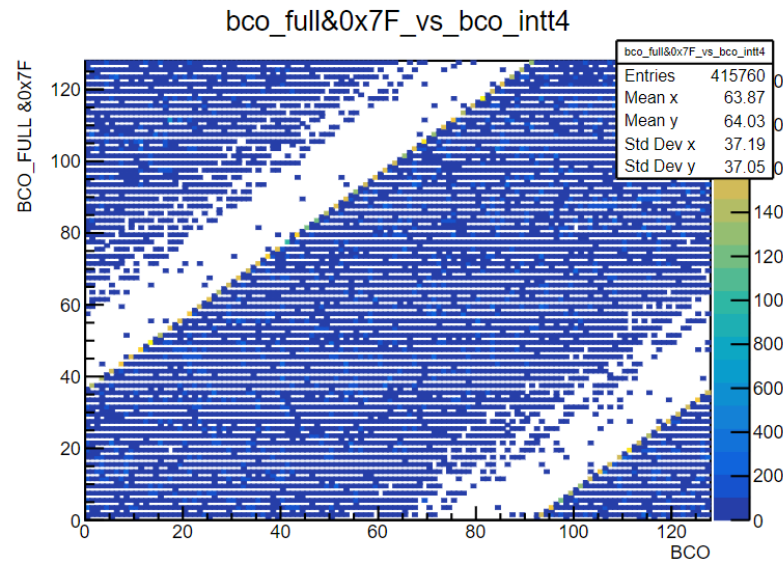
Run44286 intt2



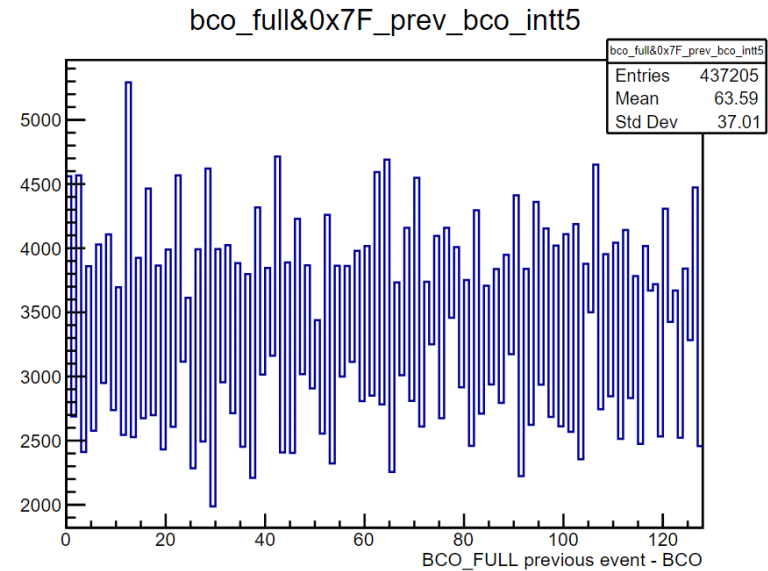
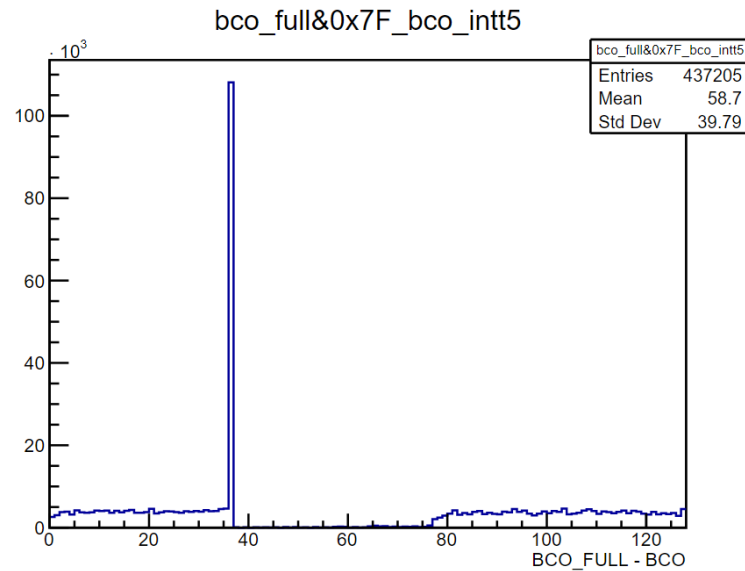
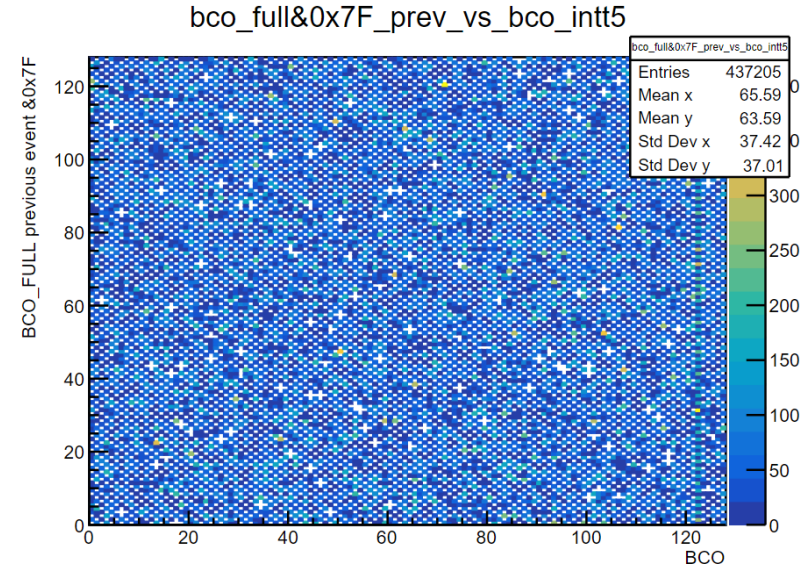
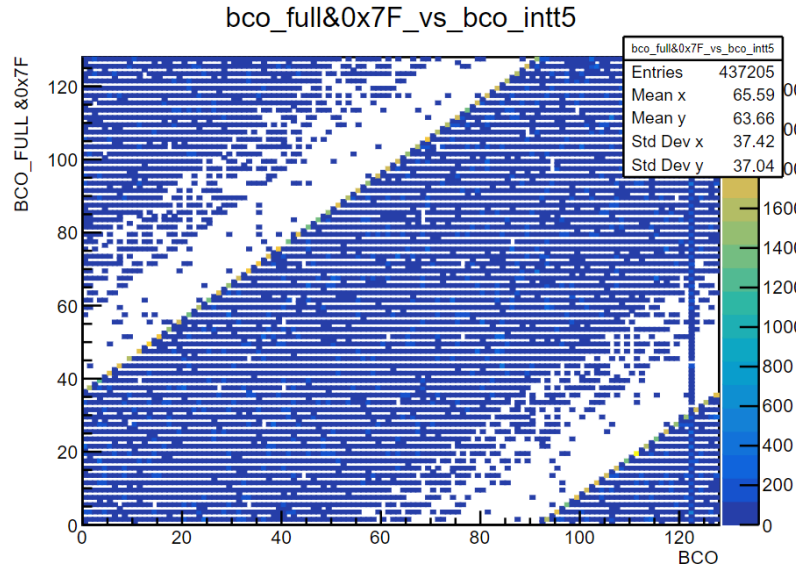
Run44286 intt3



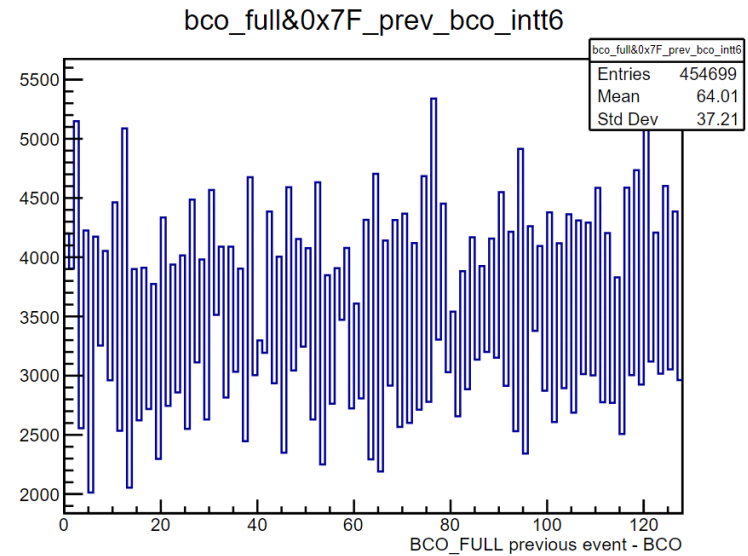
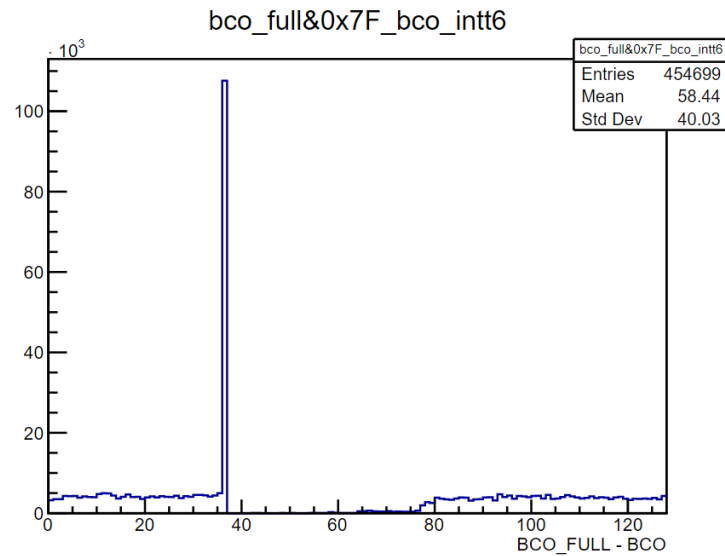
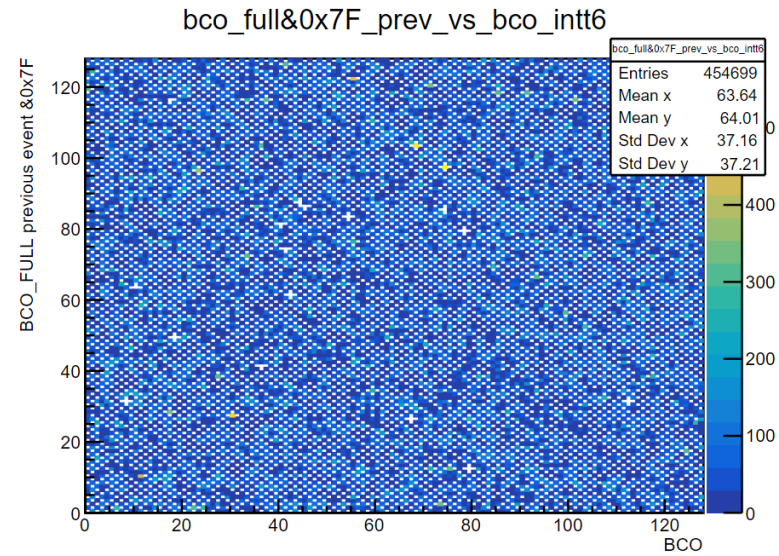
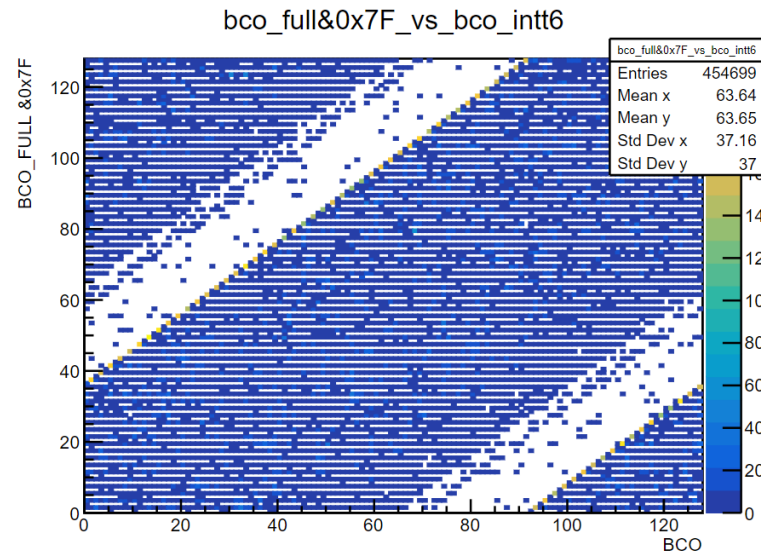
Run44286 intt4



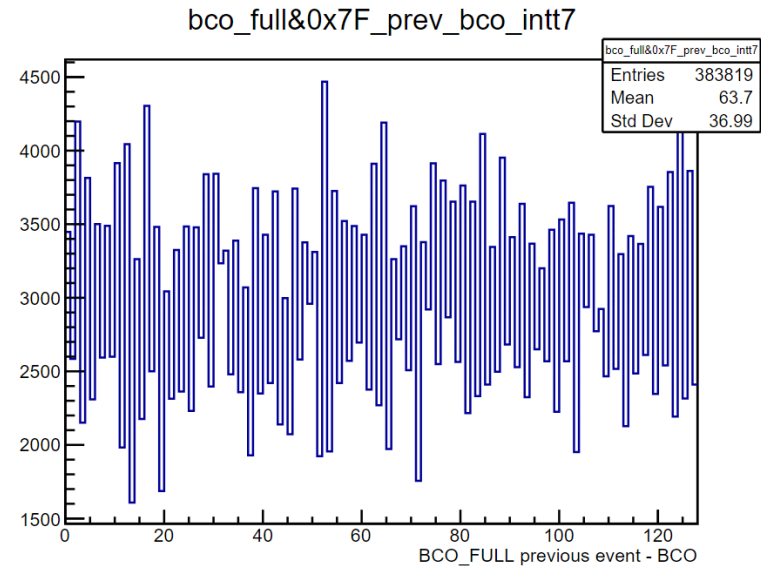
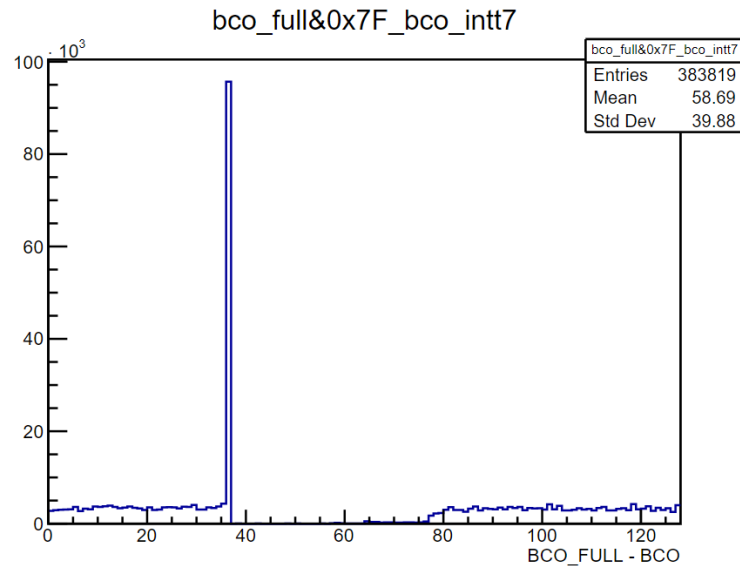
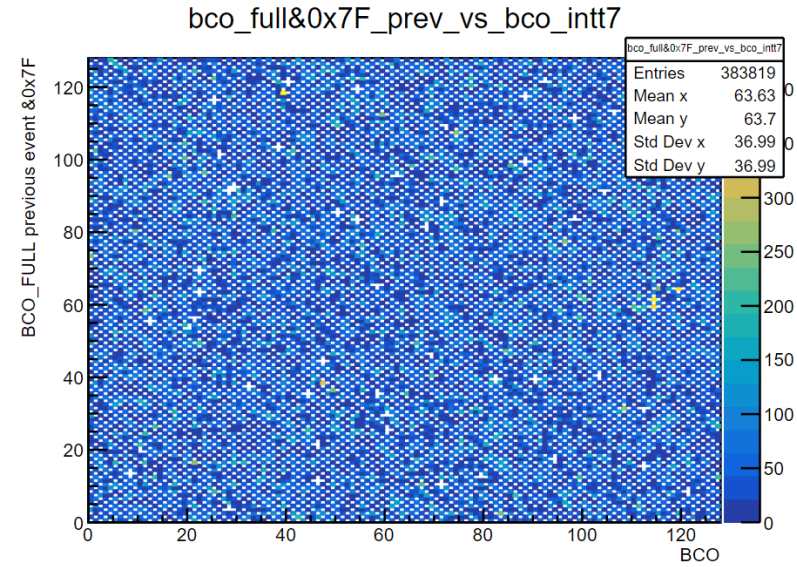
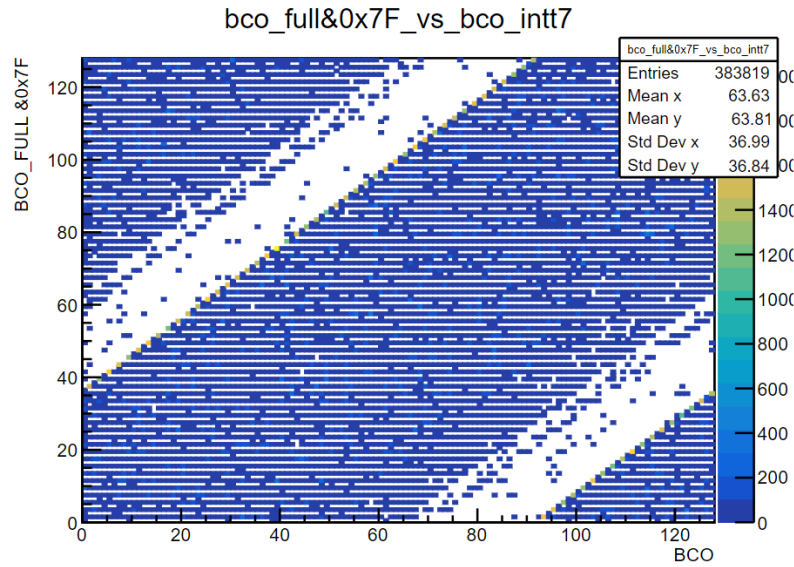
Run44286 intt5



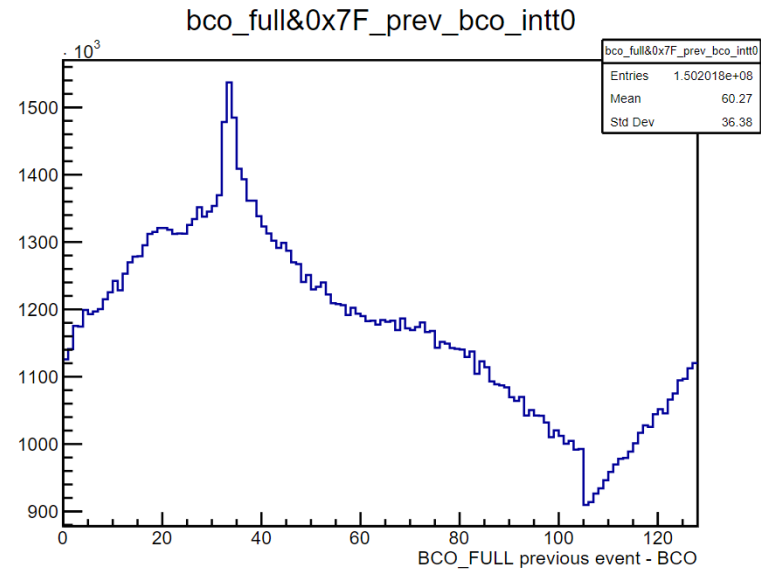
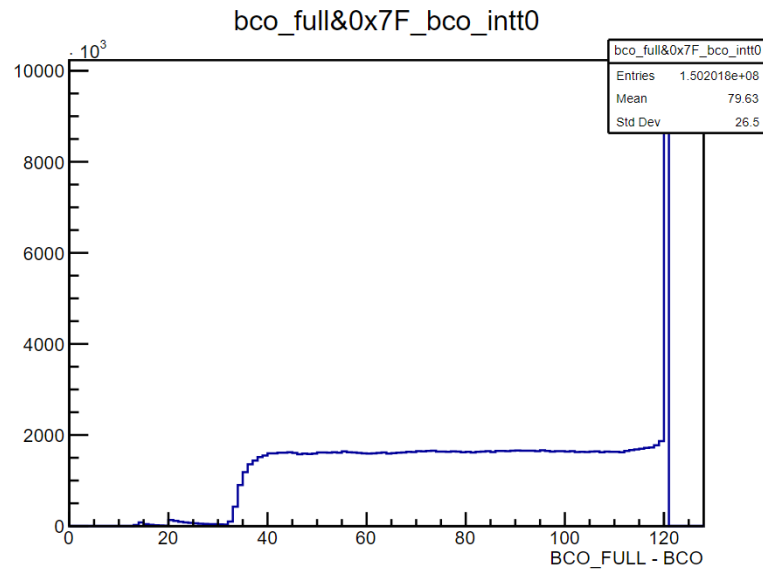
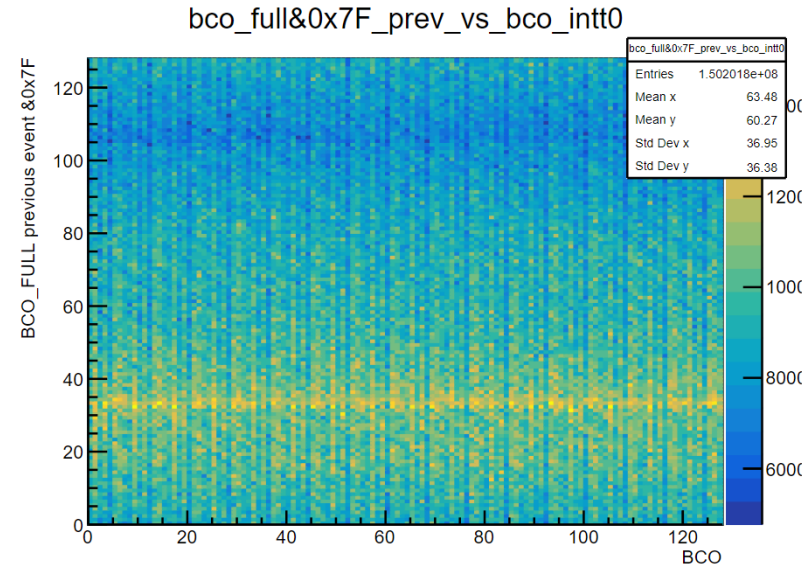
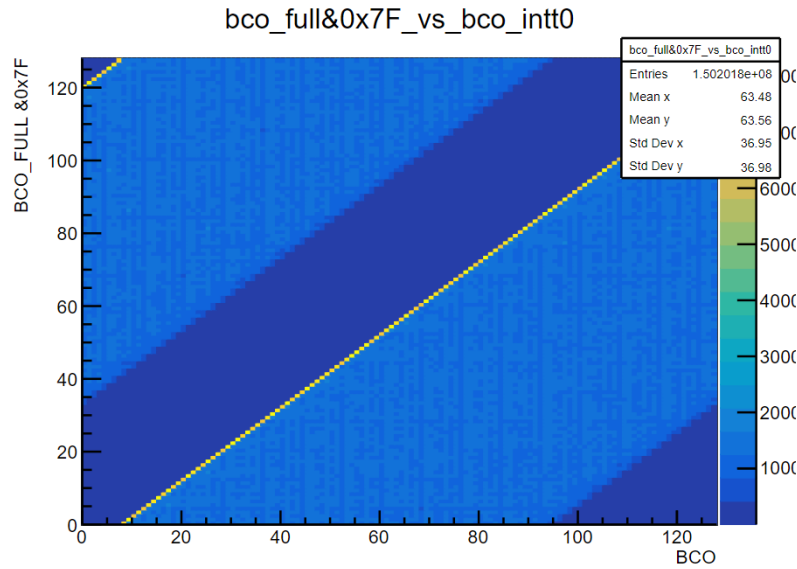
Run44286 intt6



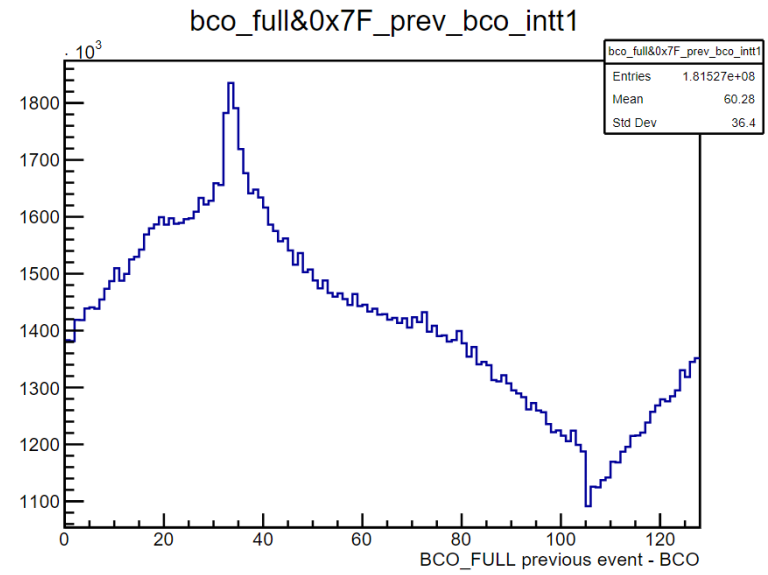
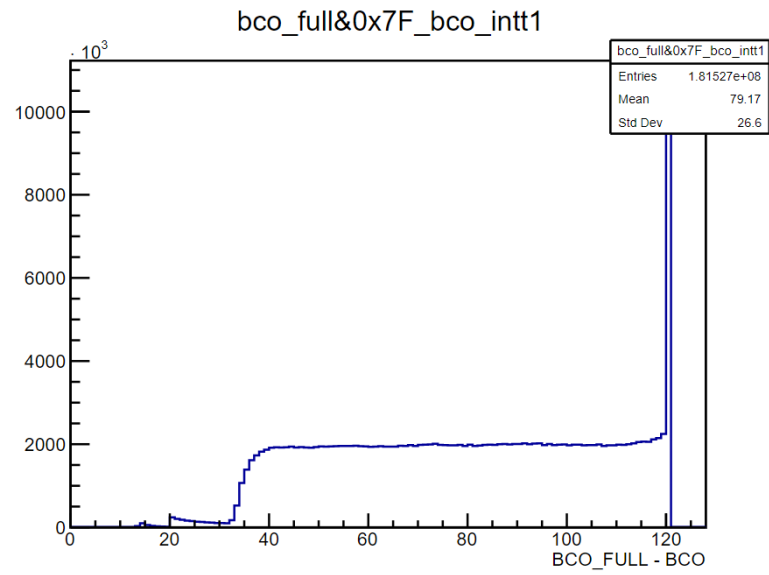
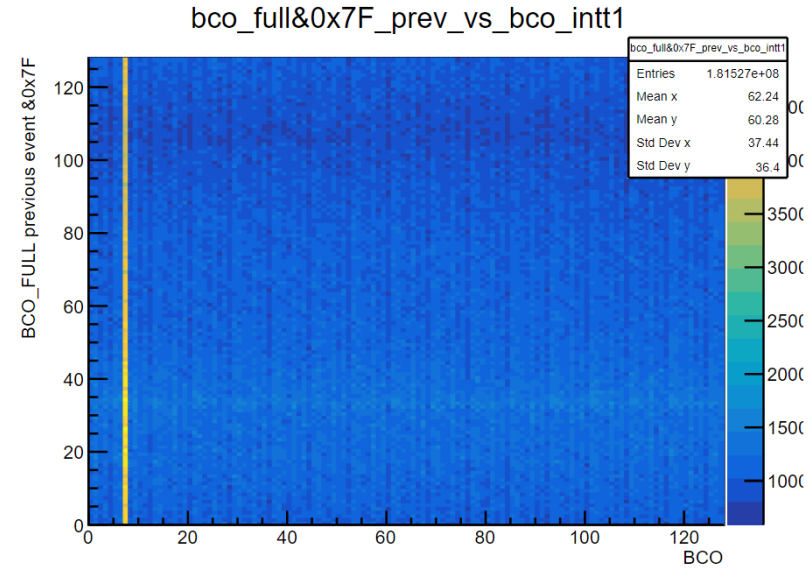
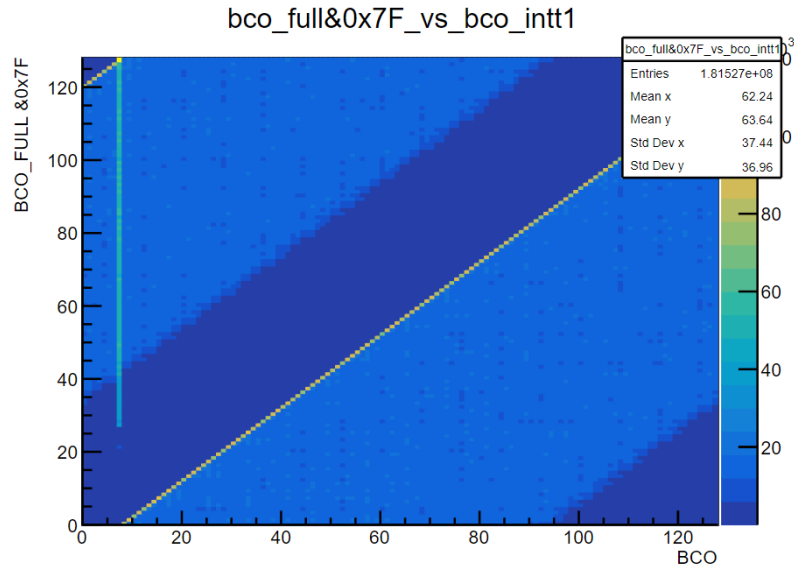
Run44286 intt7



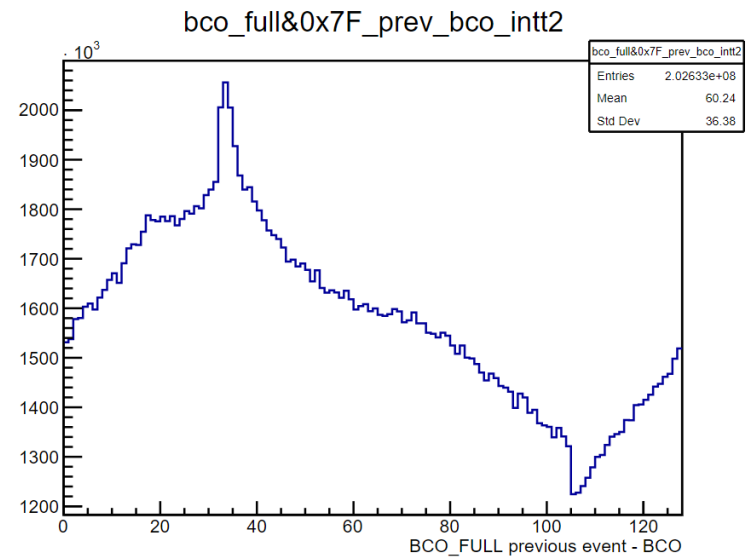
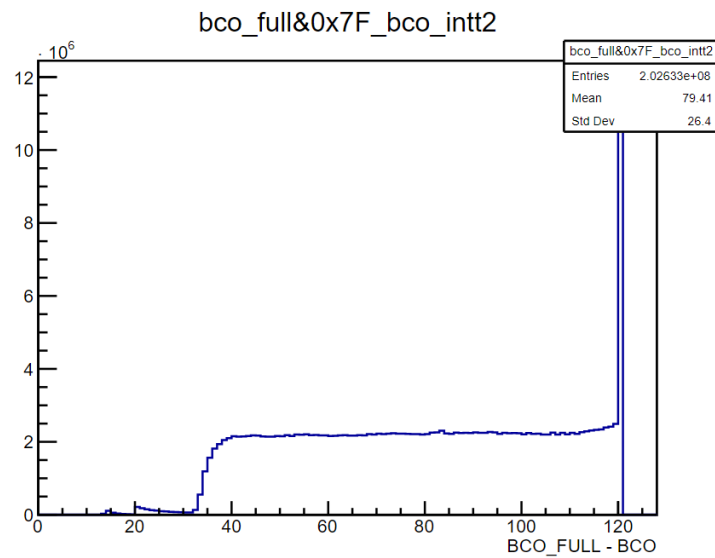
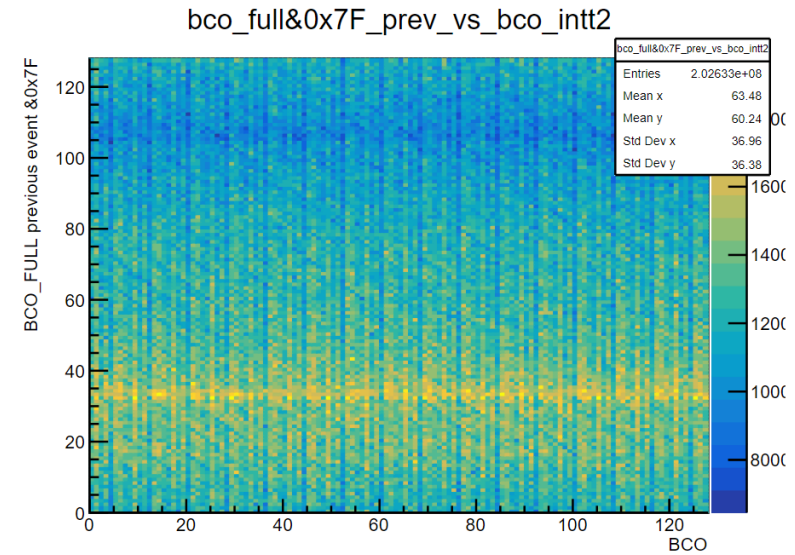
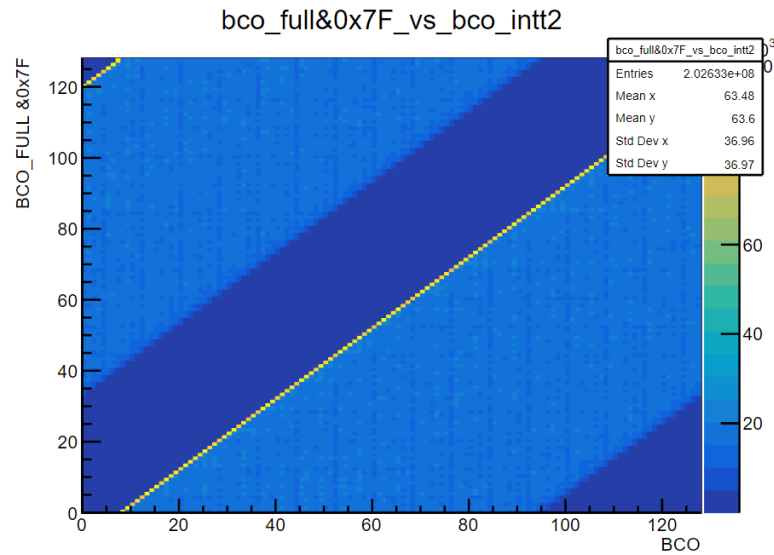
Run44395 inttt0



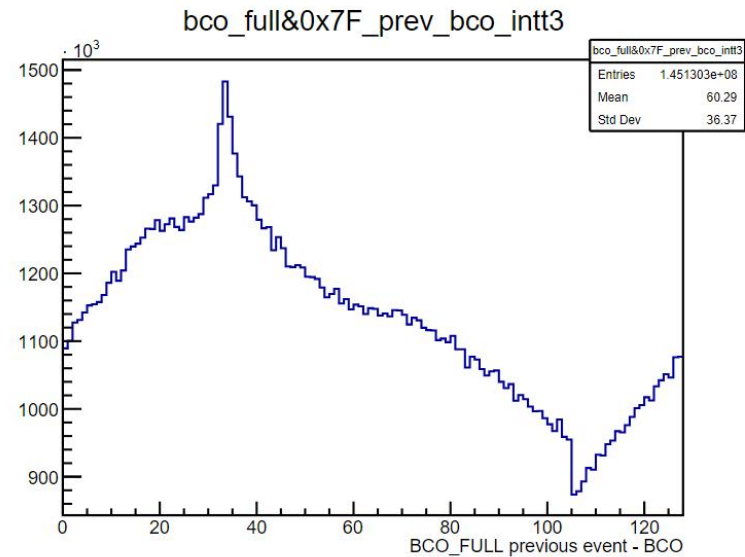
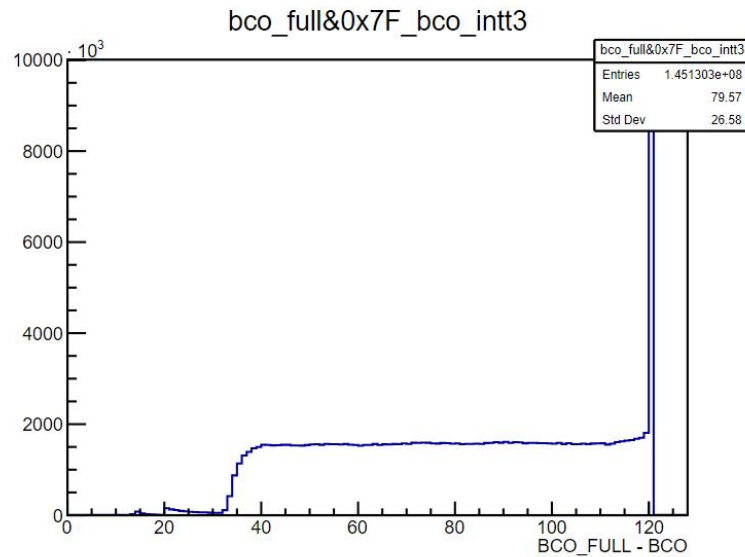
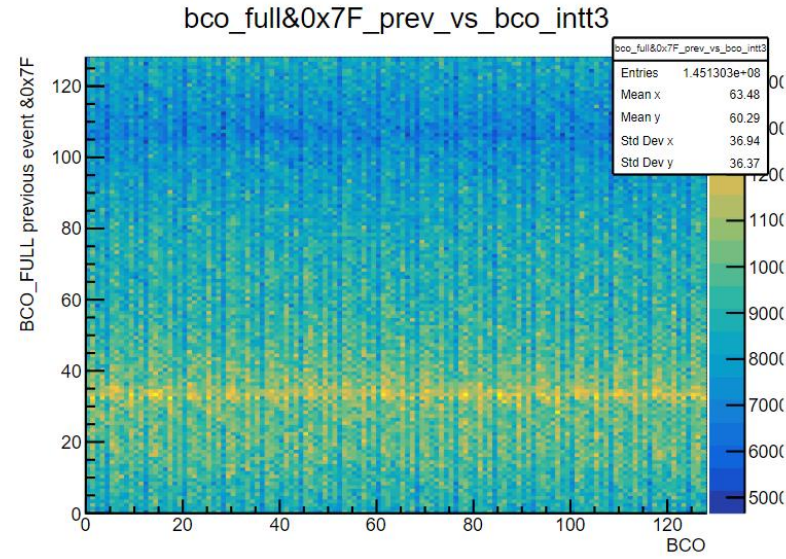
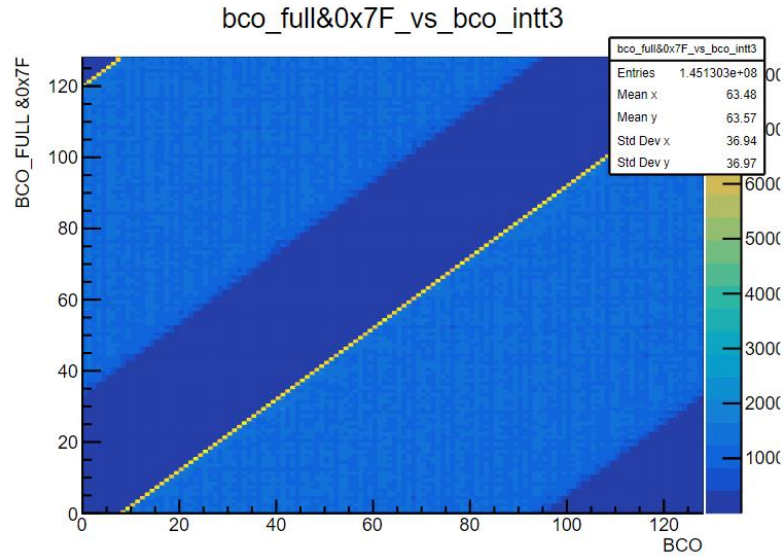
Run44395 intt1



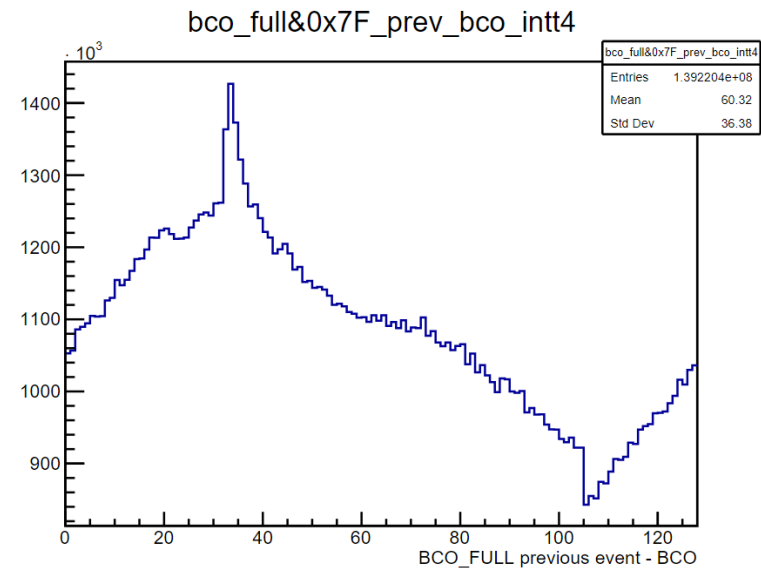
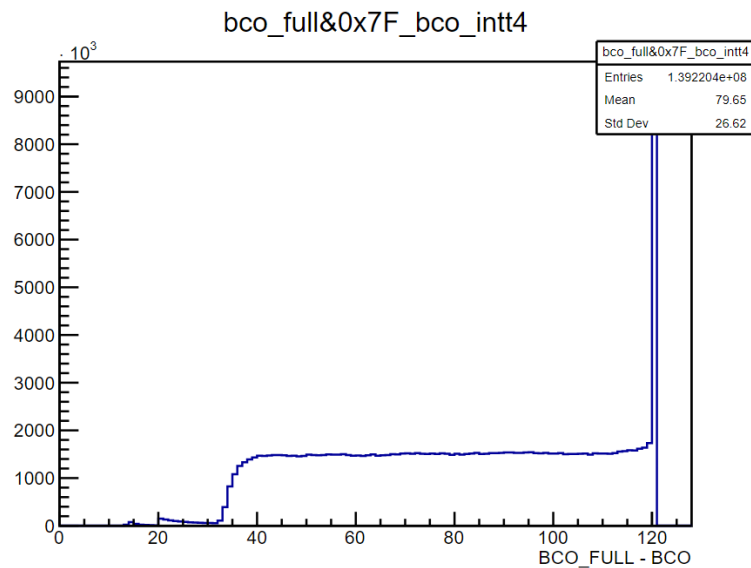
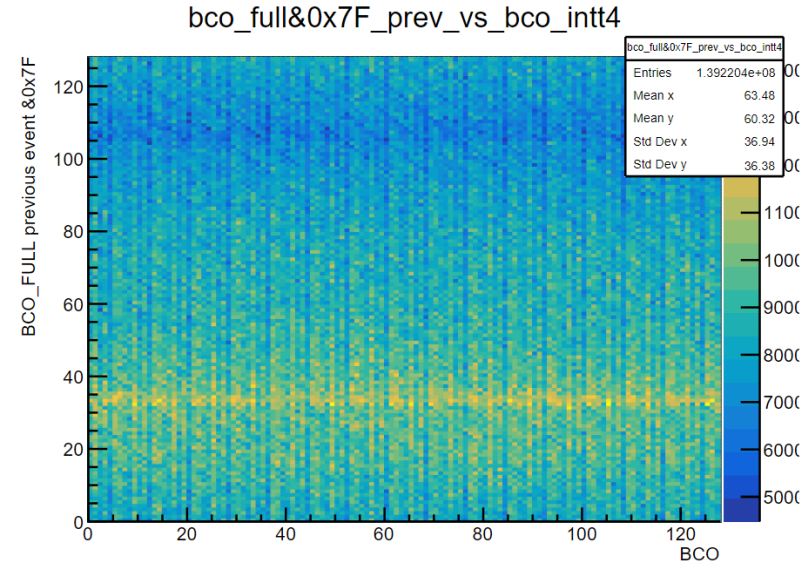
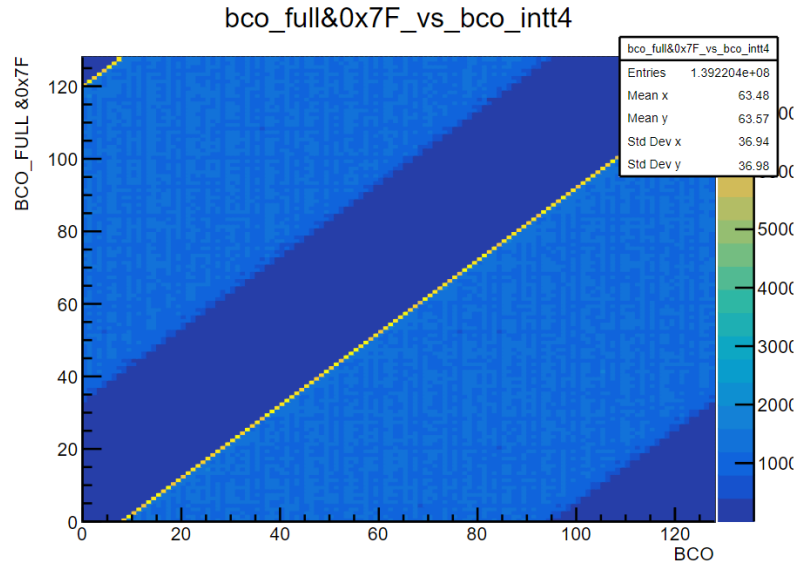
Run44395 intt2



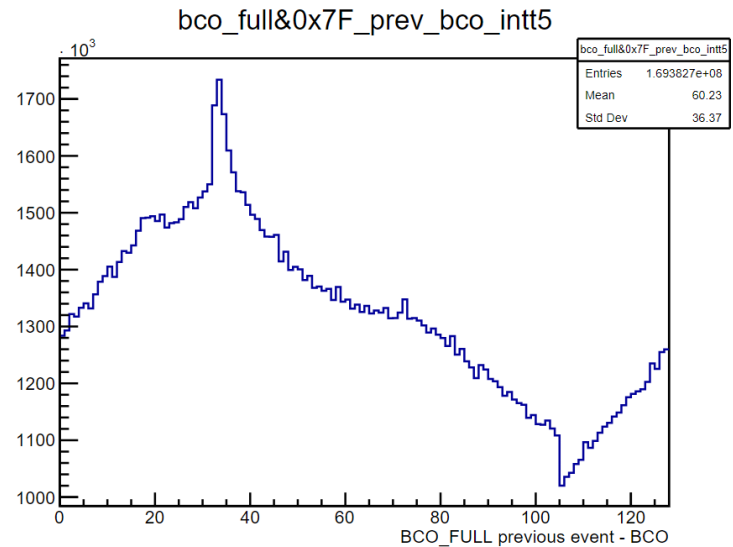
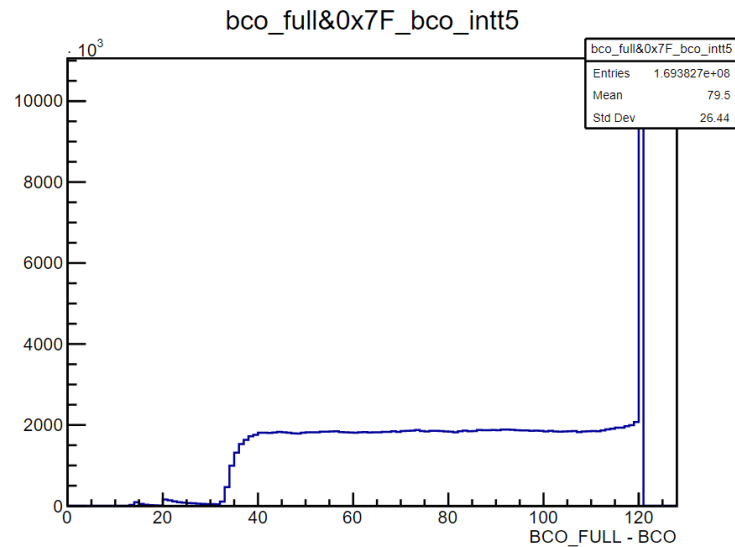
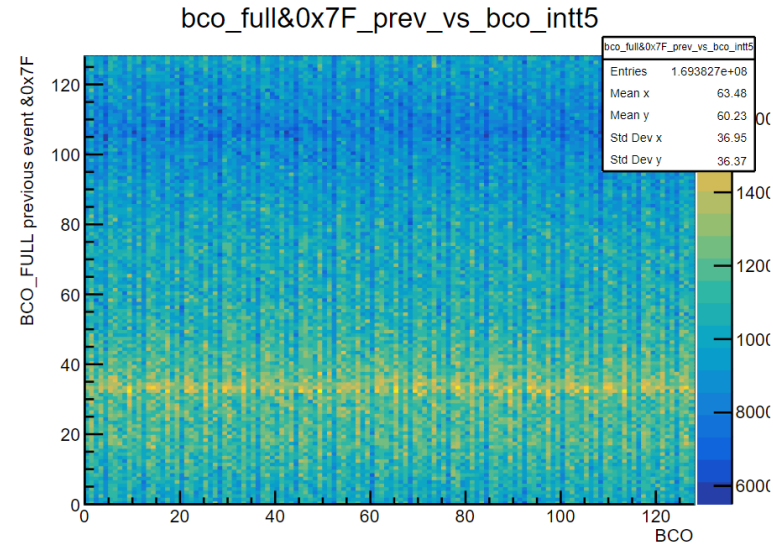
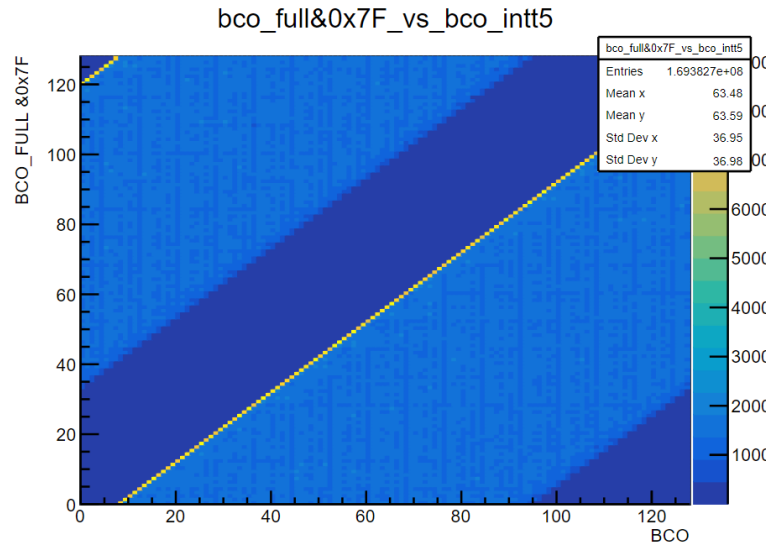
Run44395 intt3



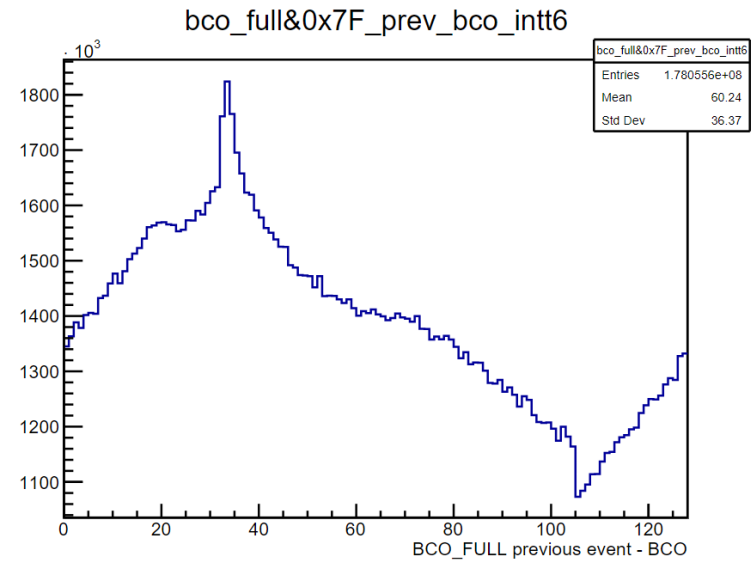
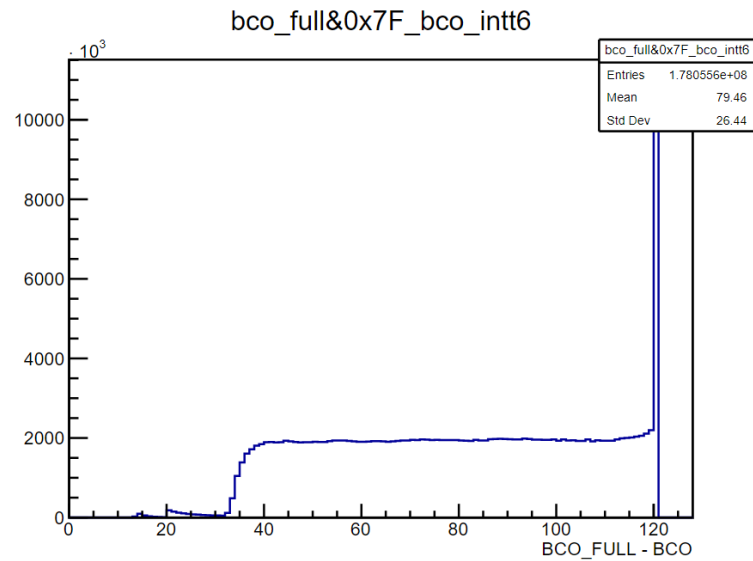
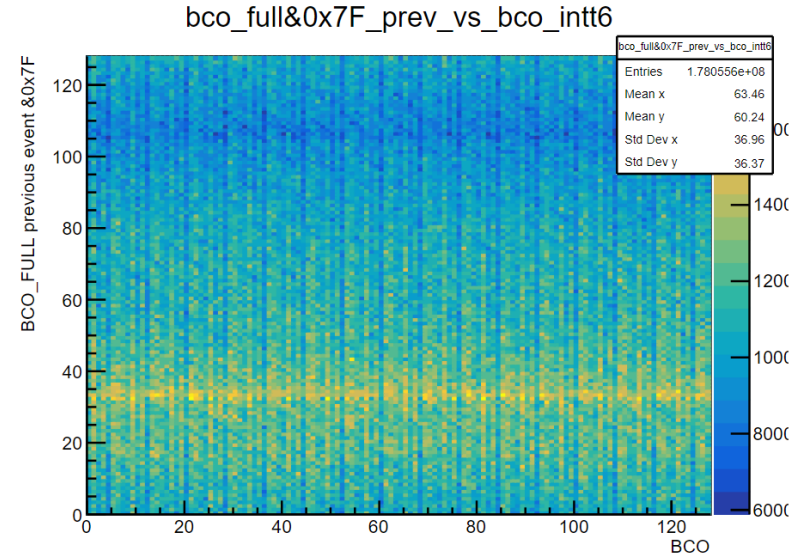
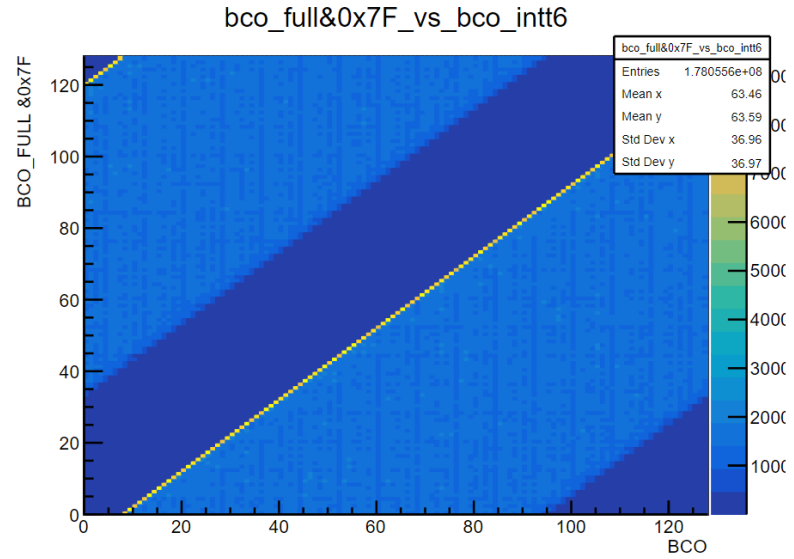
Run44395 intt4



Run44395 intt5



Run44395 intt6



Run44395 intt7

