

BIC Workshop

Hall D Parasitic Beam Test : HGCROC studies

(16/06/2026)

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Hall D Parasitic Beam Test

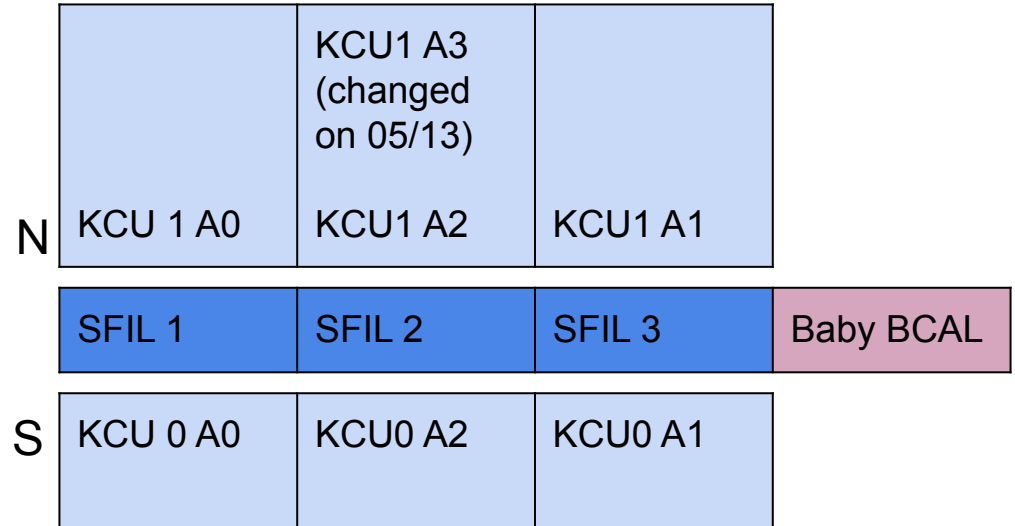
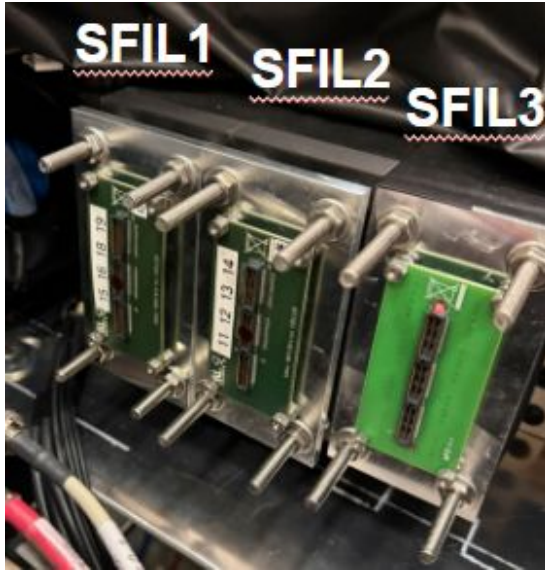
How to access the data ?

- JLab Computer Cluster (all you need to have is a JLab computer Account)
- HGCROC data are in : `/work/eic3/EPIC/TestBeam/BIC/data/`

```
[akshaya@ifarm2401 ~]$ ls /work/eic3/EPIC/TestBeam/BIC/data/  
AstroPix  CAEN  KCU0  KCU1  mlp_crap  
[akshaya@ifarm2401 ~]$
```

Instructions on Analyzing on ifarm : [Link](#) (under the title : Analyzing on ifarm)

HGCROC Mapping



Single SiPM array of 16 channels : **Group**. Mapping tells which group corresponds to which ASIC for each KCUs.

All details on Mapping can be accessed here : [Channel Mapping](#)

First Check on data (Cosmics Run type in beam mode)

RUN 530 : (05/01/2026)

Settings :

SiPM HV: 41.70 V

SiPM I: 335 μ A

T1: 21.4 °C

T2: 17.9 °C

Number of events :

KCU0 : 1248

KCU1 : 1248

For Run Log and other info : [Link](#)

Beam info:

$\langle I \rangle = 0.25$ nA

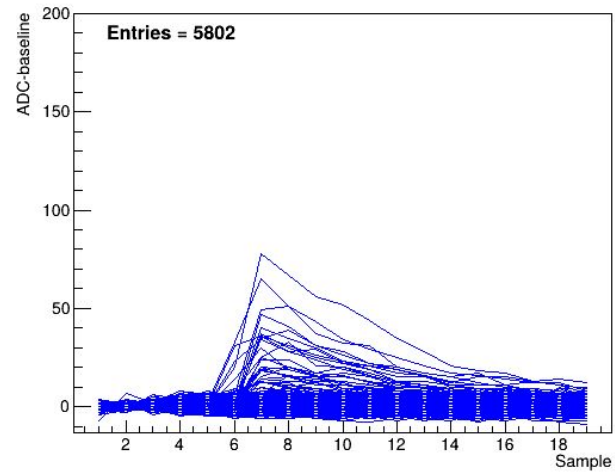
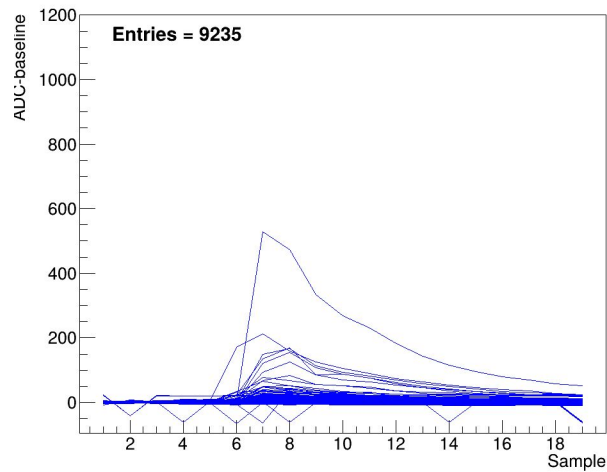
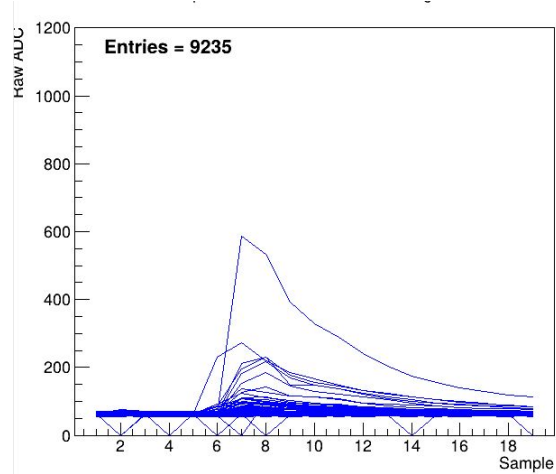
PS field: 0.190 T (~100A setting)

Rad: NO RADIATOR

PSrad: HOME (out of beam) @ 0.000 mm

TPOL: HOME (out of beam) @ 0.000 mm

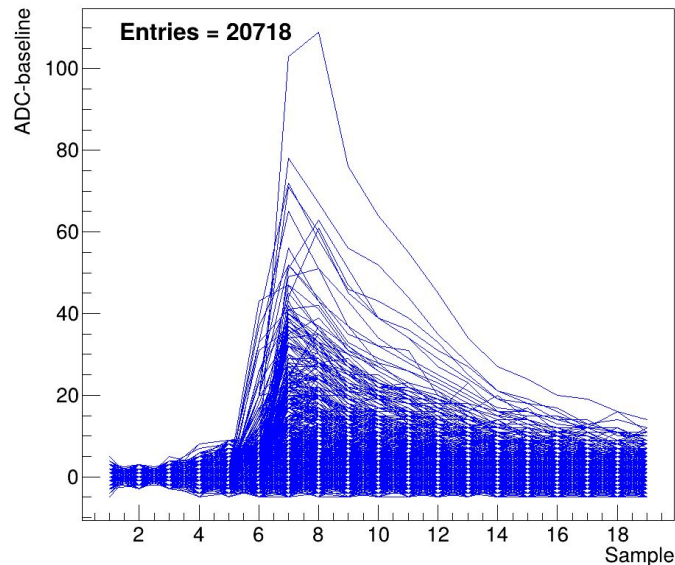
Channel 0



Events quality cut:

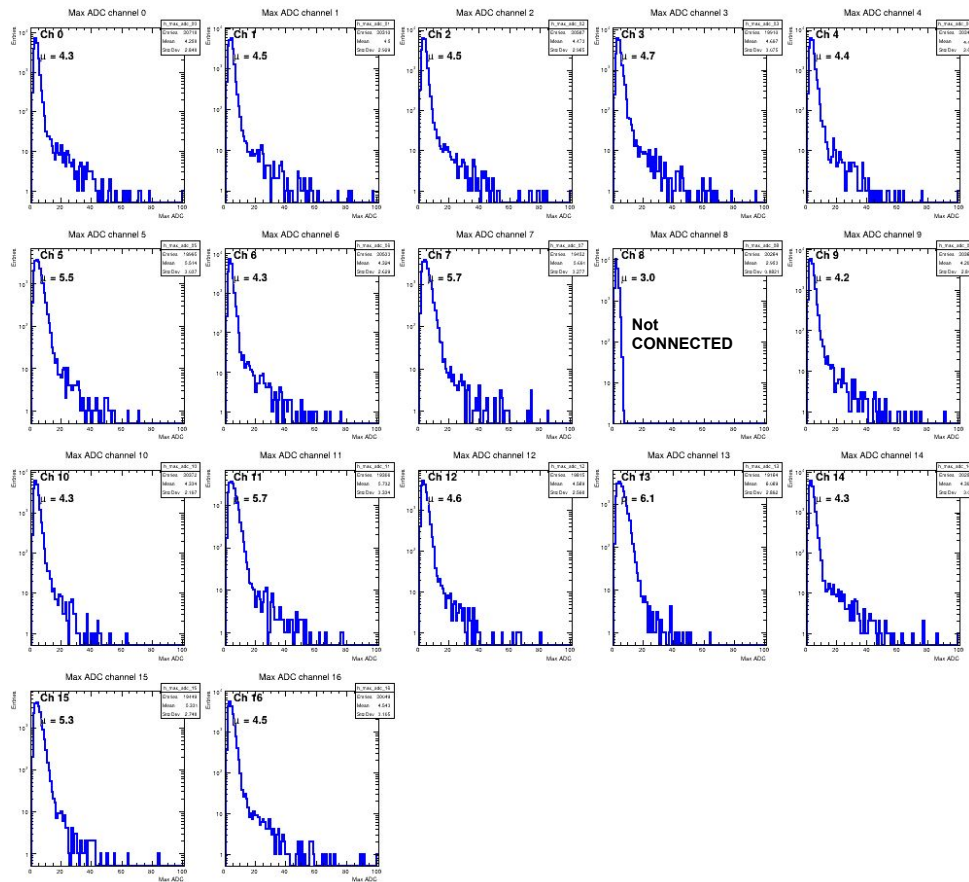
- a positive pulse amplitude ($\max \text{ADC} \geq 0$),
- no large negative ADC ($\min \text{ADC} \geq -5$),

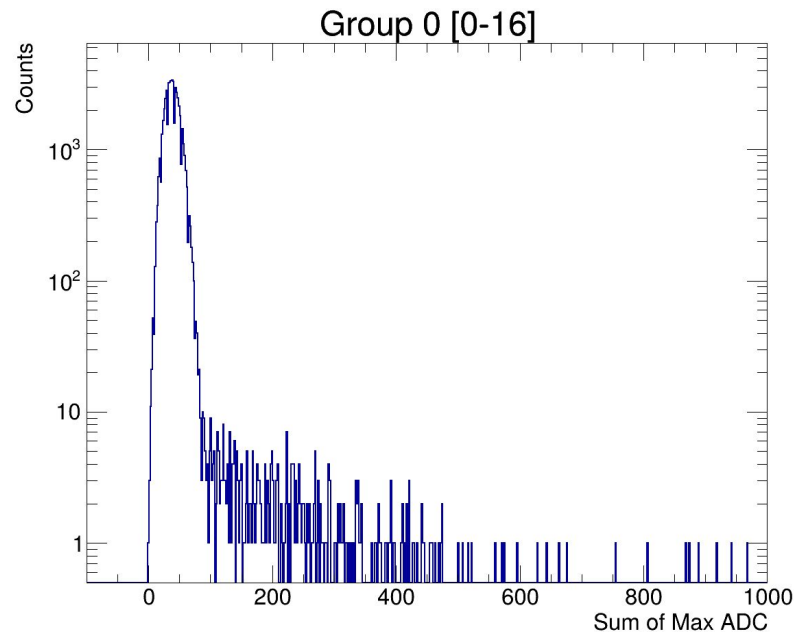
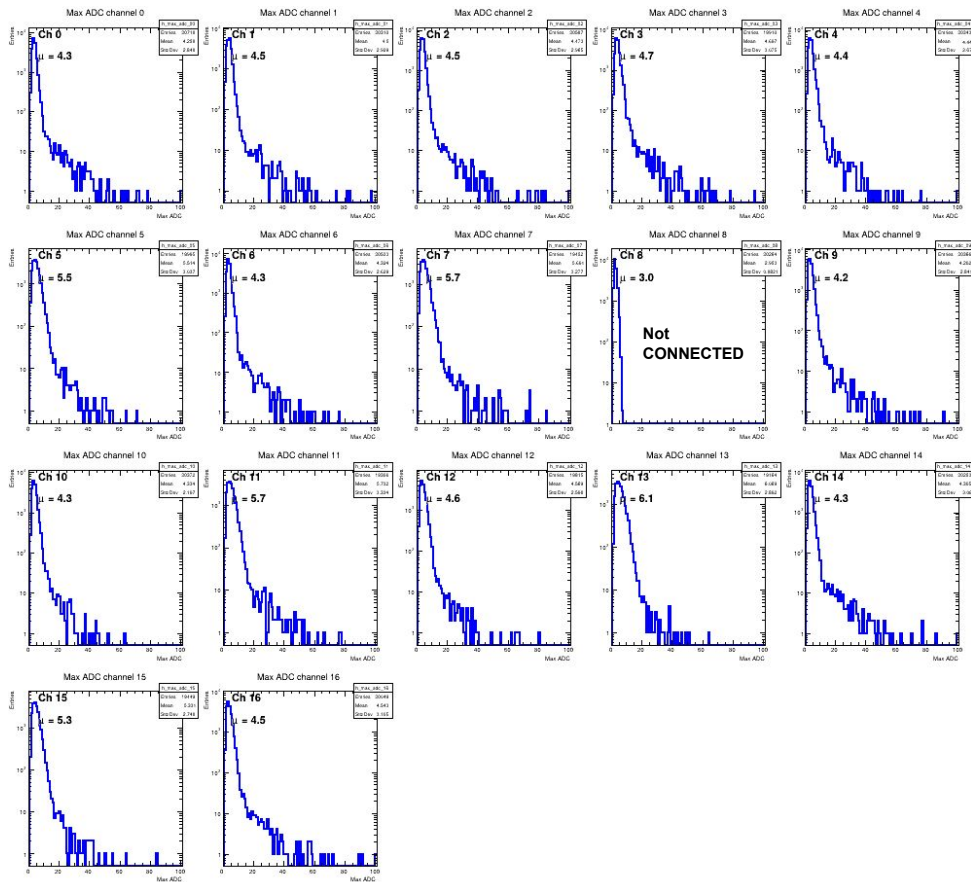
Good events only channel 0



Events quality cut:

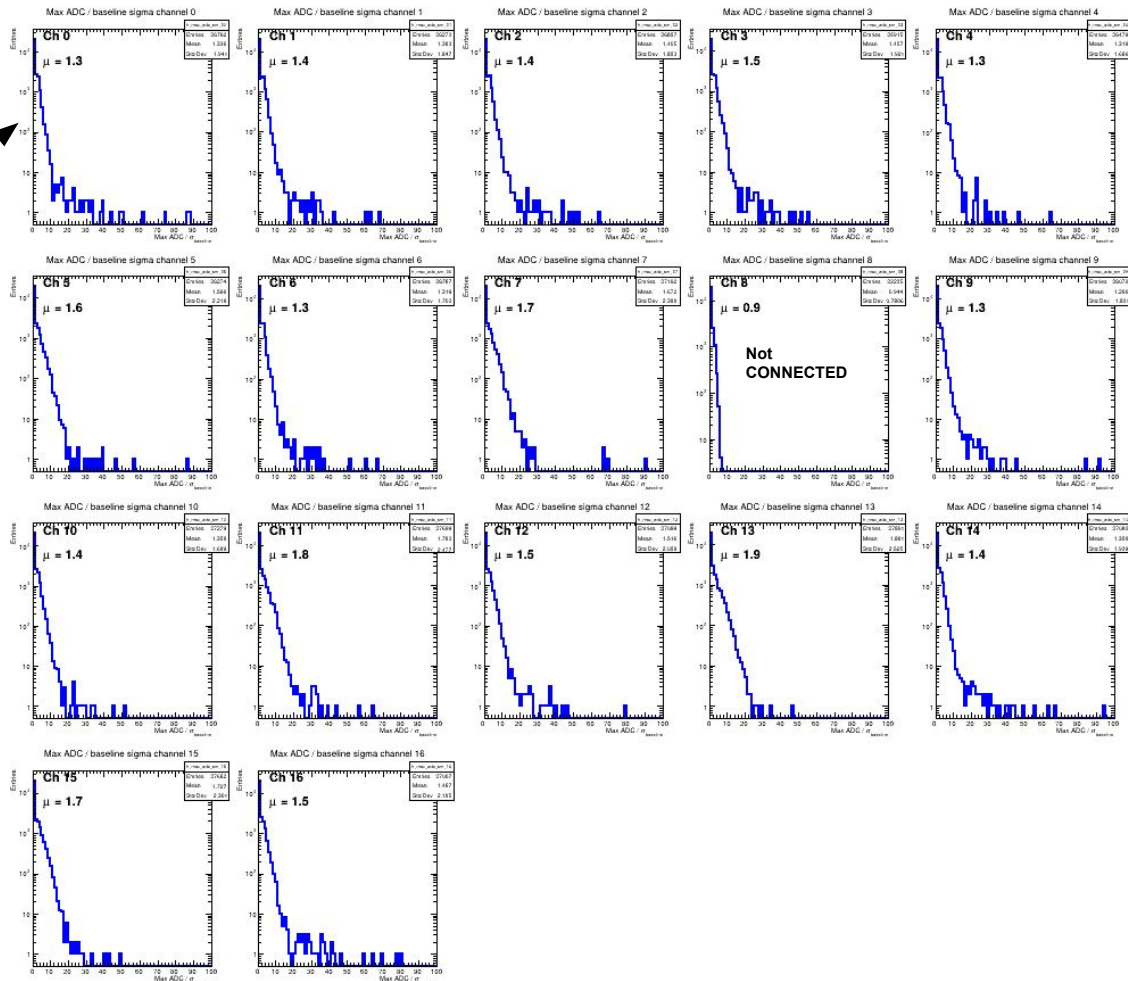
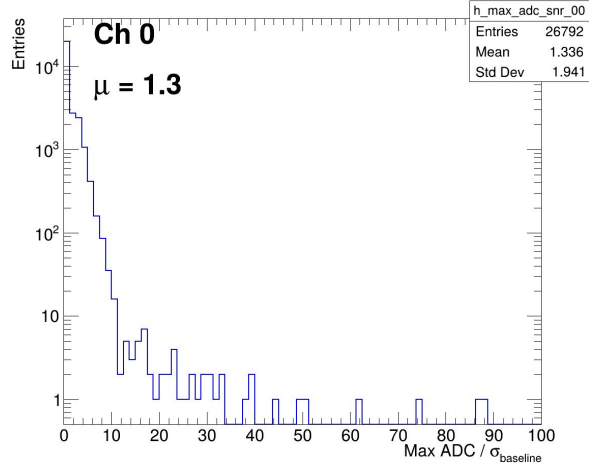
- a positive pulse amplitude (max ADC ≥ 0),
- no large negative ADC (min ADC ≥ -5),
- and a pulse peak occurring within ($5 \leq s_{\text{max}} \leq 17$).



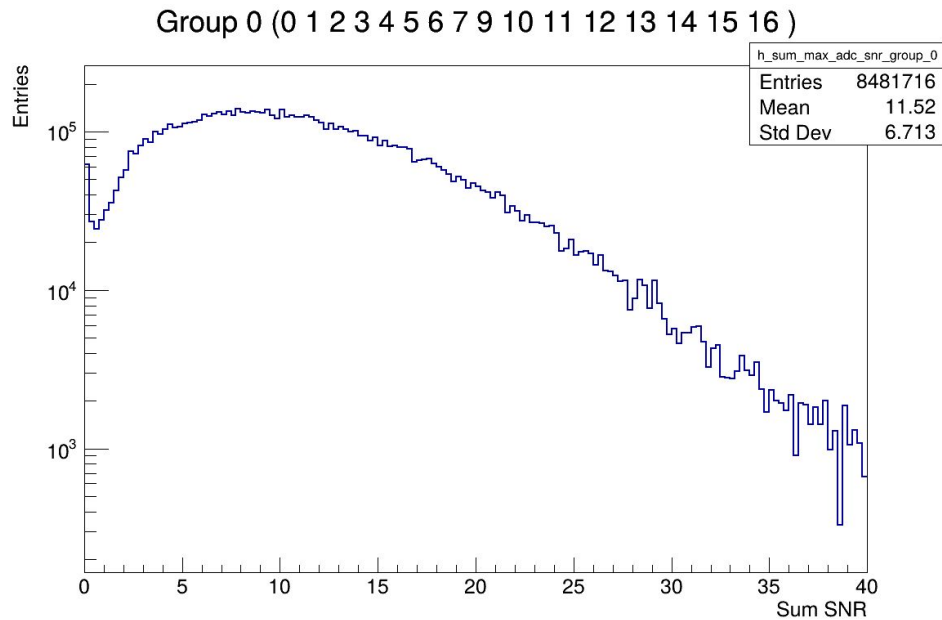
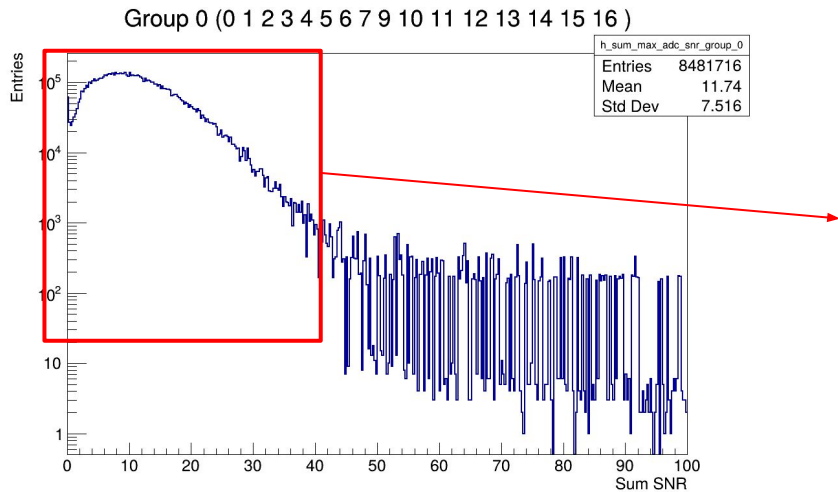


Max_adc/baseline sigma for first 16 channels of ASIC 0 SFIL 1

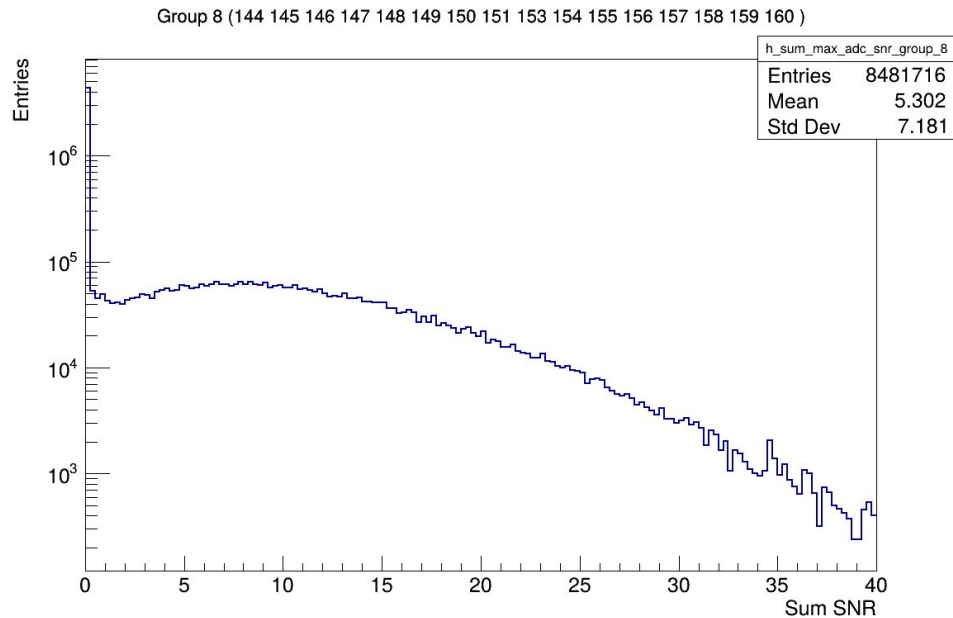
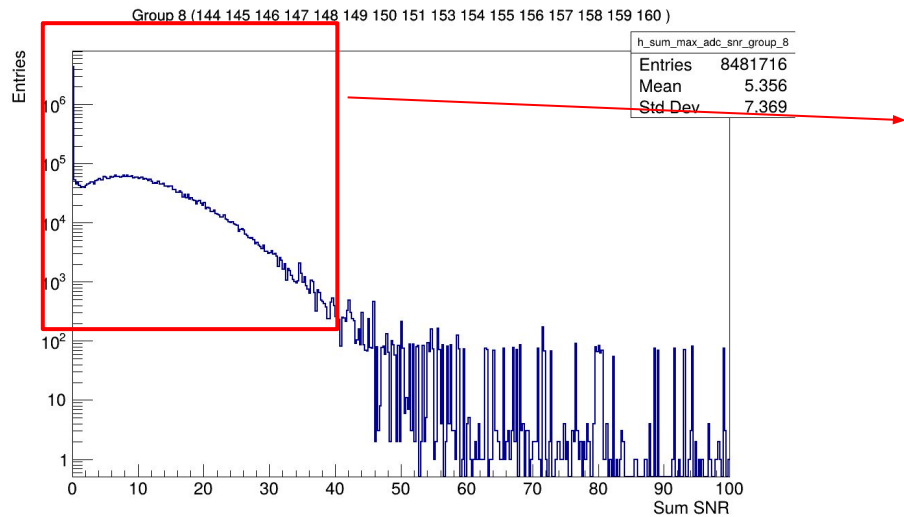
Max ADC / baseline sigma channel 0



ASIC 0 SFIL 1



ASIC 2 SFIL 2



NEXT STEP...

- Repeat these analysis for the Beam data (Work in progress)
- Template Fitting to separate MIP
- Relative Calibration

Thank You...