Preparation of Offline QA Plots

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RIKEN

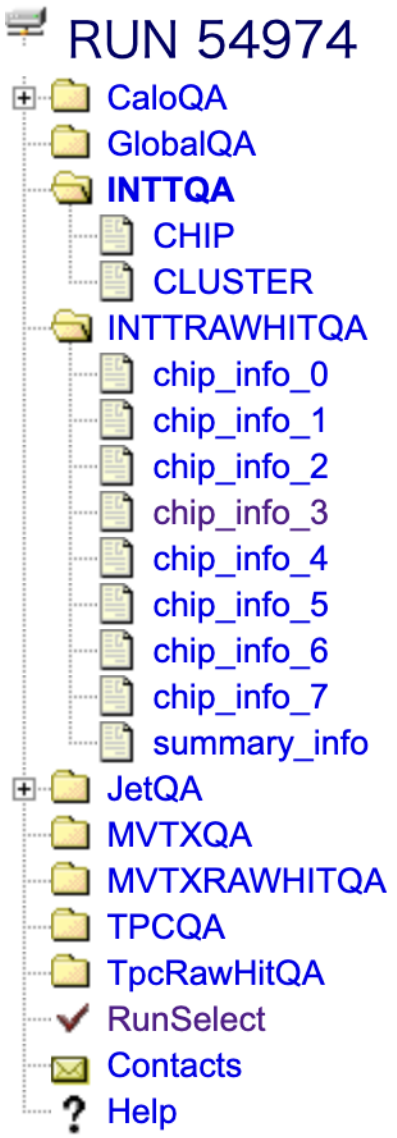
Offline QA plots for Au+Au in 2025

- Preparation of Offline QA Plots for Au+Au Collisions in 2025
  - Let’s review what we have and what we need more of.
  - Summary page showing the run quality
- The Offline Monitoring
  - We’ll need to update the guide to reflect the new plots.

INTT offline QA Plots

- The current offline QA plots can be found HERE.
- INTT provided basic cluster and hit QA plots for Run24
  - BCOQA (Fraction GL1 Tagged for each server and FEE)
- More plots?
  - A list of proposed tasks was discussed before the beam starts: see link.

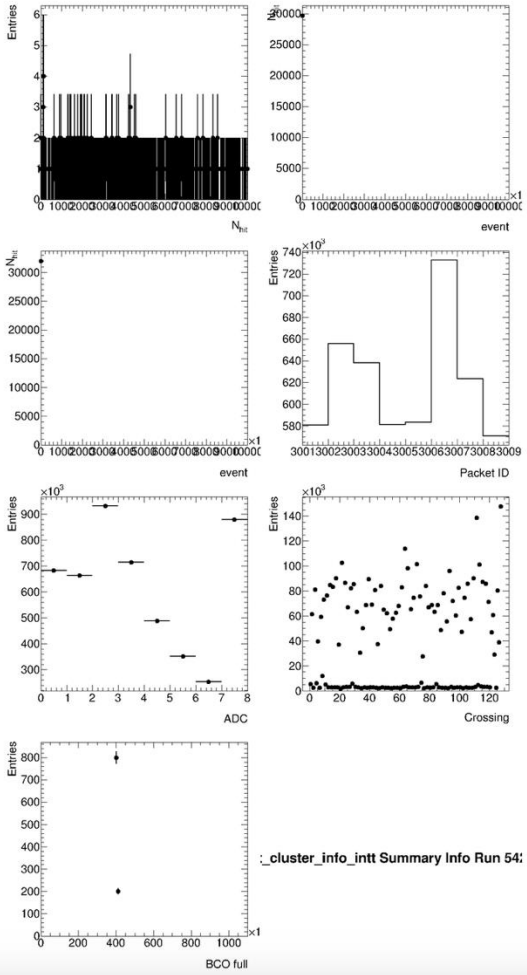
Offline QA plot	Mixup Event module	Ryotaro/Takashi	Commissioning
Offline QA plot	phi cluster size module	Takahiro	Commissioning
Offline QA plot	Raw hit QA modules	Jaein	Commissioning
Offline QA plot	Z, X-Y vertex module	Mahiro/Genki	Commissioning
Offline QA plot	Semi-Online monitoring	Akitomo	Commissioning
Offline QA plot	Remote watch shift	All	Thoughout Run25
Offline QA	Good run list	Jaein/Takahiro	Thoughout Run25
Offline QA	Hit carry-over issue	Ryotaro/Cheng-Wei	Commissioning
Offline QA	Chip saturation issue	Ryotaro/Cheng-Wei	Commissioning
Offline QA	Half Entry issue	Tomoki/Takahiro	Before collisions
Offline QA	Hot/Cold channel	Jaein/Takahiro	Commissioning



Summary page

- All detector groups are expected to prepare a summary page showing the quality classification (e.g., good or bad) of each run.

INTT Summary Parge in 2024



sPHENIX

CaloQA_cemc_summary Run 68742

EMCal Summary - Run 68742

Overall status: Bad Run

(HTML generated 65 hours after run end)

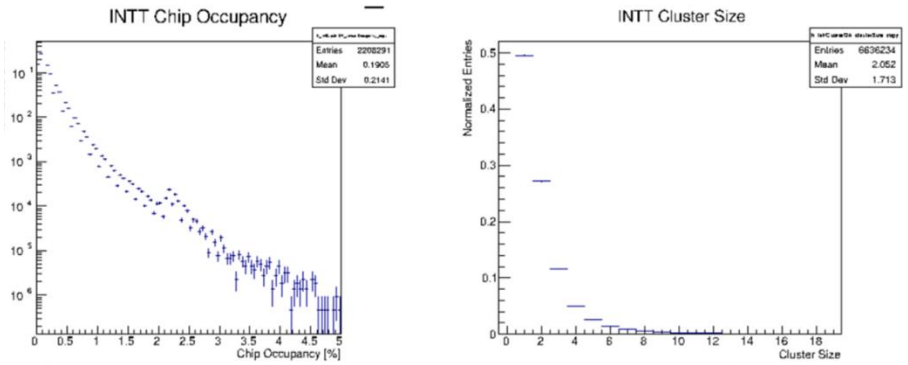
Start time: 2025-07-02 01:52:21	
Total events: 20100000 CaloValid / 33436518 from DB	(good)
Bad towers: 684 dead, 39 hot, 3 cold	(bad)
Hit timing: mean = -0.355, sigma = 0.457	(good)
MBD vertex: mean = -2.440, sigma = 21.467	(good)

- Golden Run
  BCO alignment = GOOD
  Runtime >= 5 mins
  GOOD Channel ratio > 90%
- Questionable case 1
  Runtime < 5mins
- Questionable case 2
  Runtime >= 5mins
  80% < Good Channel ratio < 90%
- Bad Run case 1
  Runtime >= 5mins
  BCO alignment = BAD
- BAD Run case 2
  Runtime >= 5mins
  Good Channel ratio < 80%

Offline monitoring guide

- The current Offline Monitoring Guide for Run24 can be found HERE.
- There are two slides for INTT
  - They cover only cluster QA, not hit QA.
  - One of the slides is marked as 'work in progress'.
- We should update the instructions accordingly.

INTT cluster QA:



Work-in-progress

What is the plot basically showing?

Left: raw hit occupancy per chip

Right: Cluster size

2.What specifically should the QA monitors be looking for?

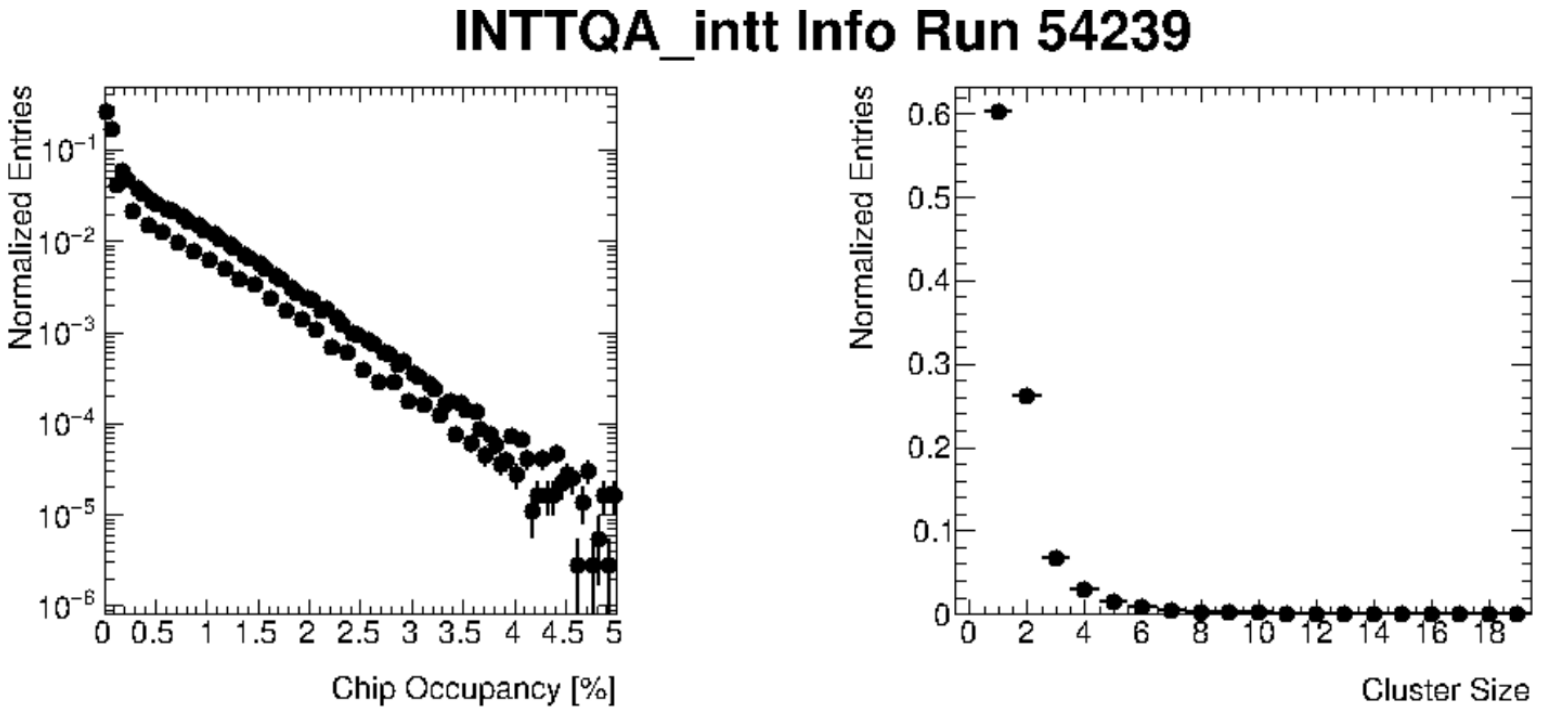
(left) falling slope w/ bump is OK

(Right) Falling slope and peak at 1

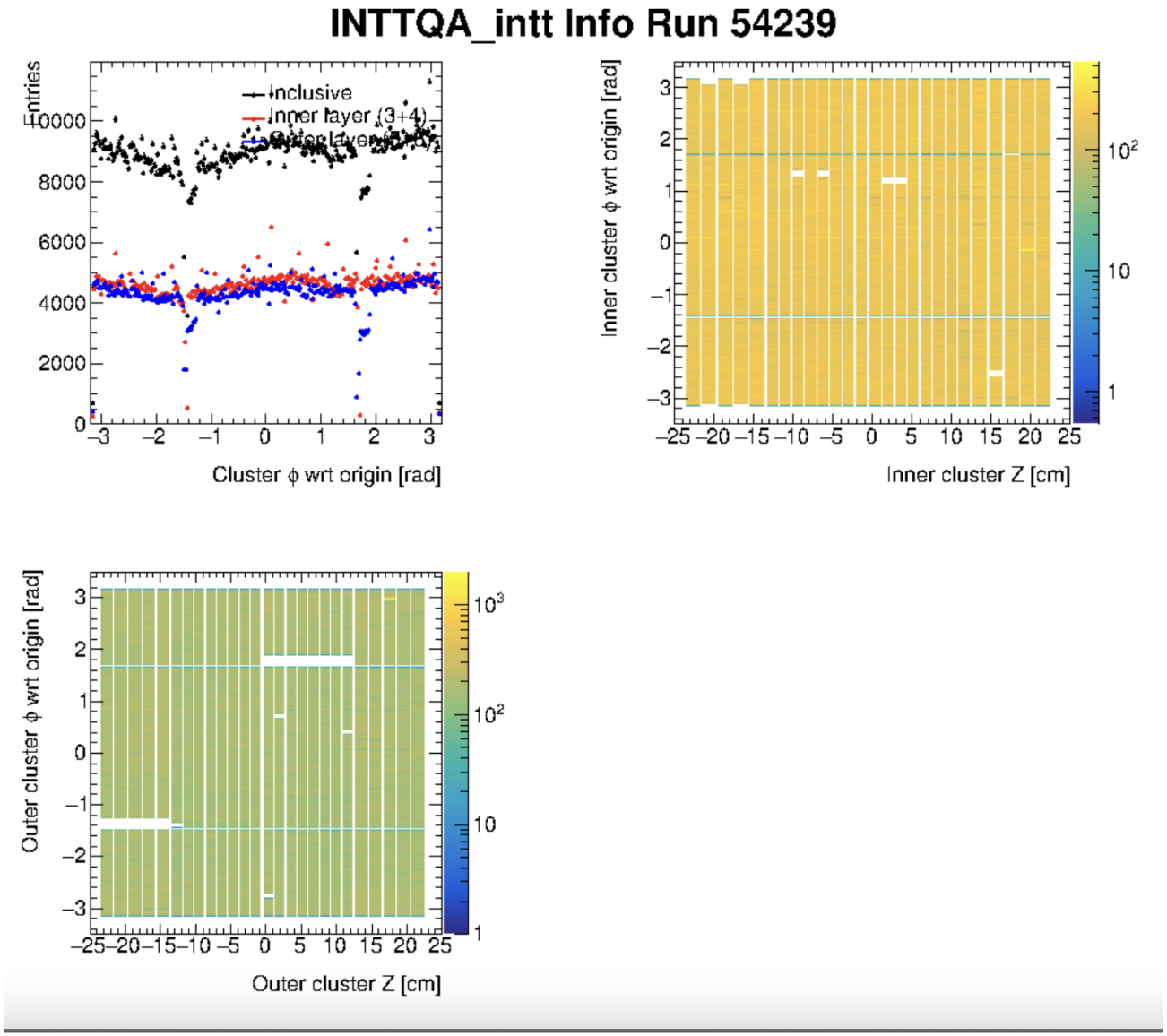
Back up

CHIP QA

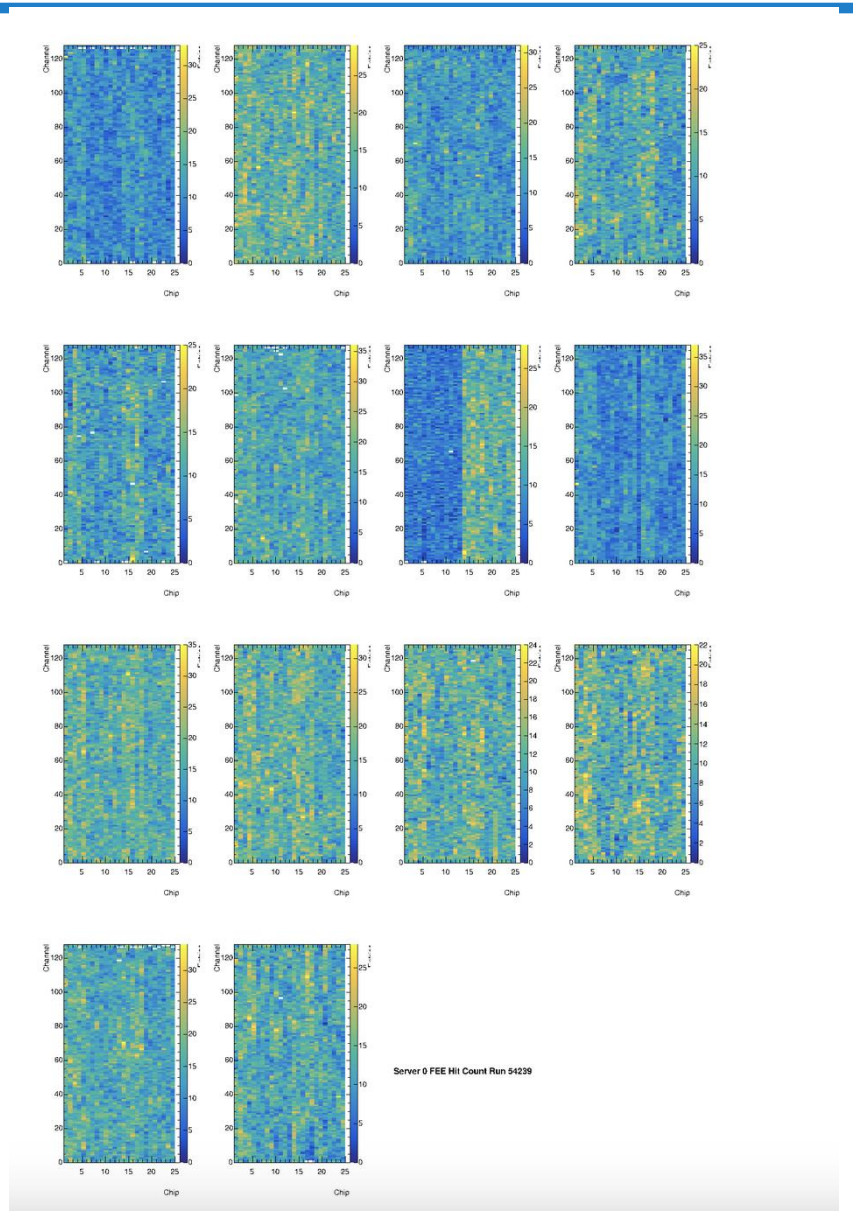
- Occupancy
- Cluster Size



- Cluster φ wrt origin
- Z vs φ for inner clusters
- Z vs φ for outer clusters

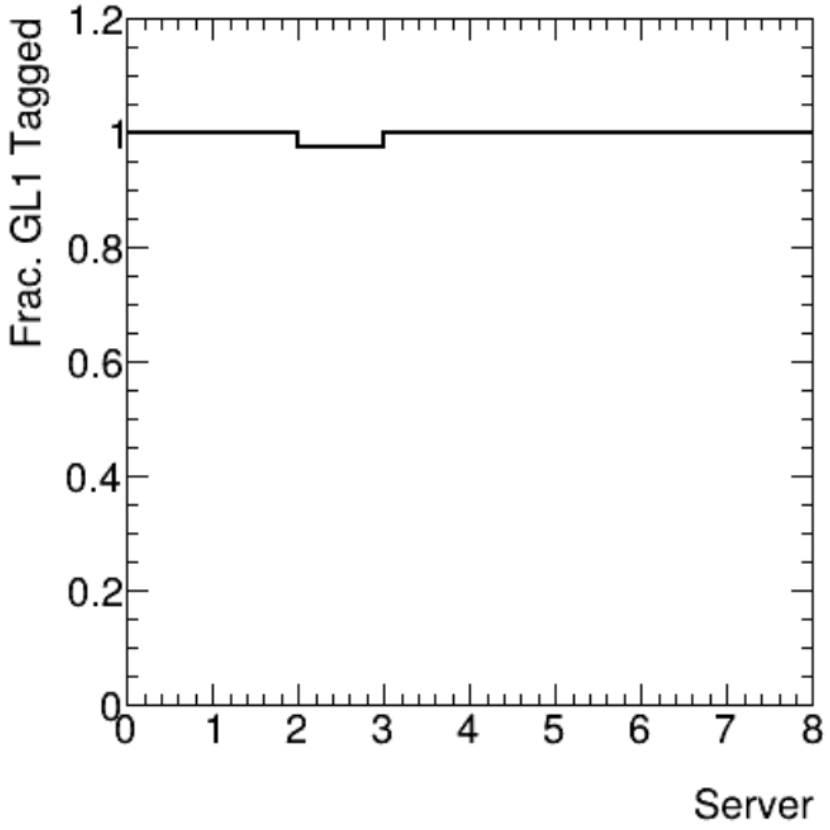


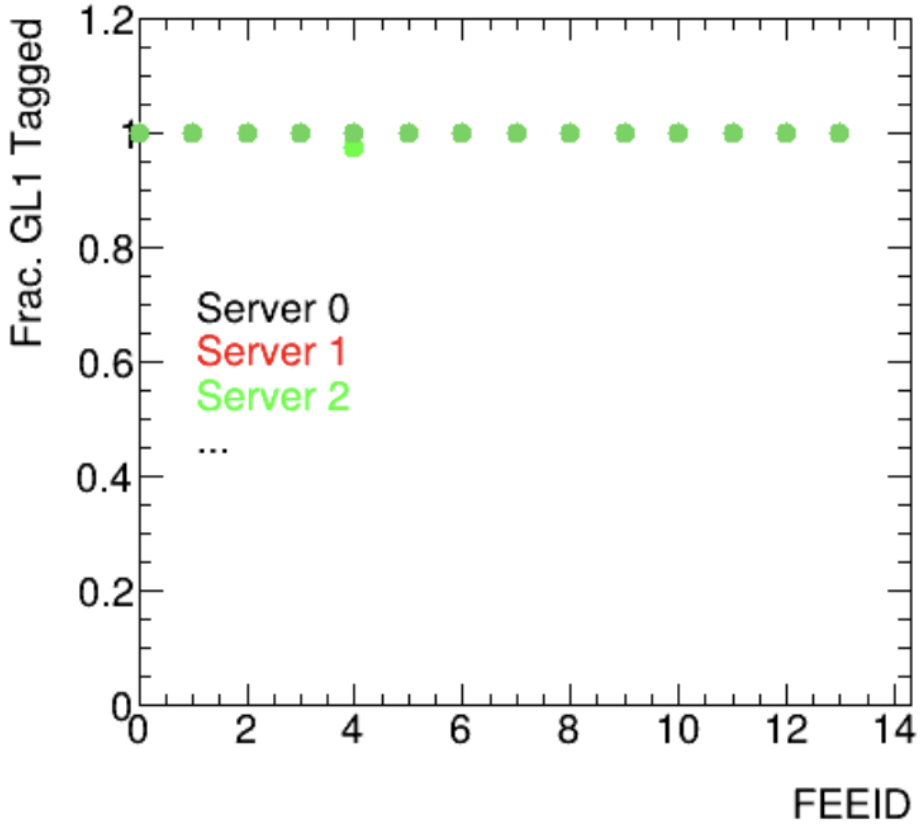
Hit map for each channels



BCOQA

- Fraction GL1 Tagged for each server and FEE





Current Summary Page

- We need to add the quality classification.