

# TileCal DQ leader report

- DQL: Maia Mosidze
- DQV: Matej Haviernik



**Tilecal Calibration, Data Quality, Performance and Processing meeting  
Monday 23-Sept 2024**

## DQ activities

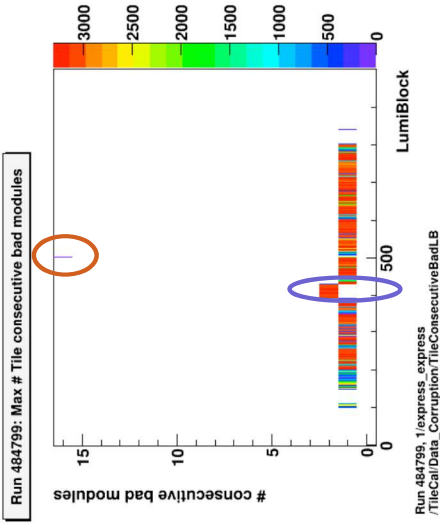
Thursday 19/09 - Sunday 22/09

- **5 Physics Runs sigh-off with tolerable defects:** 484780, 484799, 484909, 484953, 484979
- The timing jumps checked in laser-in-gap .log an .out files and in Tier-0 physics DQ monitoring plots as well.
- Calibration Runs were analyzed (Friday 20.09.2024):
  - 484913: Tile CIS Mono LG
  - 484915: Tile CIS Mono HG
  - 484916: Tile CIS Scan
  - 484917: Tile Pedestal Run
  - 484921: Tile Laser LG Filter 6 Short
  - 484922: Tile Laser HG Filter 8 Short

Separate report for the calibration runs attached:  
<https://indico.cern.ch/event/1402209/>



# Run 484799

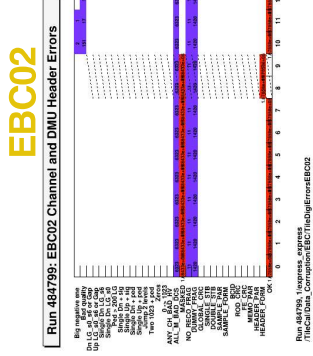


**2 consecutive bad modules**  
**Affected LB range: 394-416;**

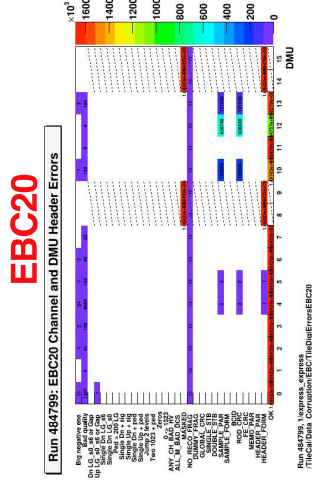
**16 consecutive bad modules**  
**Affected LB range: 502**

**Tibor checked this tissue : 16 events with 16 or more consecutive bad modules and 2226 events with 1 consecutive bad module in LB = 502. Less than 1% of events is bad, thats why this run sign-off without the BADCOVER defect. This issue will be rechecked during the BLK sign-off.**

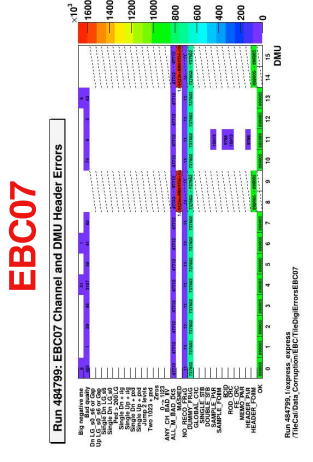
<https://atlasdaqlog.cern.ch/elisa/display/43045?logbook=DQshift>



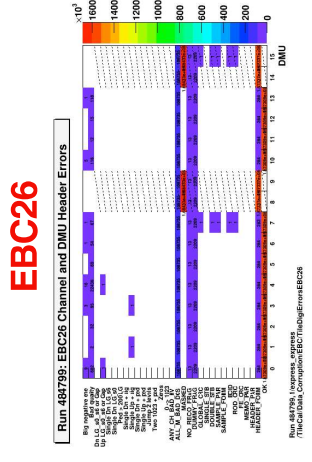
**ALL DMUs: DUMMY\_FRAG 0.08%;**  
**ALL\_M\_BAD\_DCS 0.4%;**  
**PWC asked by DAQ System LB: 396**



**ROD\_CRC, SAMPLE\_PAR for**  
**DMU10 11.5%, DMU12 37.8%, DMU13 7.2%**



**ALL DMUs: DUMMY\_FRAG 43.8%;**  
**ALL\_M\_BAD\_DCS 2.8%;**  
**DMU11HEADER\_PAAR\_BCID 0.6%;**  
**ROD\_CRC, SAMPLE\_PAR 1.004%;**  
**PWC asked by DAQ System LB: 210, 507,**



**ALL DMUs: DUMMY\_FRAG 0.13%;**  
**ALL\_M\_BAD\_DCS 6.5%;**  
**auto PWC-e due to overcurrent LB:394,395;**

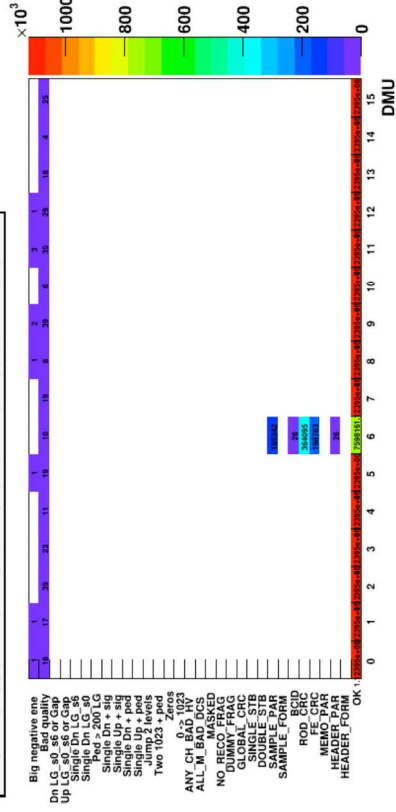
**DCS auto shutdown of MB side due to detection of overcurrent more than one time LB:395, 429**



# Run 484953

## LBC42

Run 484953: LBC42 Channel and DMU Header Errors



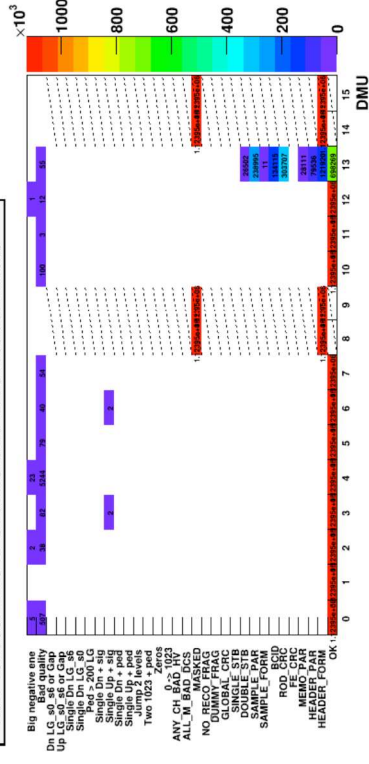
Run 484953, 1/tmp\_express\_express  
/FileCallData\_Corruption/LBC/FileDigitErrorsLBC42

DMU6 FE\_CRC 17.9%, ROD\_CRC 32.8%,  
SAMPLE\_PAR 14.9%

LBC42 was manually PWC due to data corruption

## EBC47

Run 484953: EBC47 Channel and DMU Header Errors



Run 484953, 1/tmp\_express\_express  
/FileCallData\_Corruption/EBC/FileDigitErrorsEBC47

DMU13 HEADER\_FORM 11.6%, HEADER\_PAR 7.6%, MEMO\_PAR 2.7%, ROD\_CRC  
28.9%, BCID 12.7%, SAMPLE\_PAR 22.7%, DOUBLE\_STD 2.5%

EBC47 was manually PWC due to data corruption



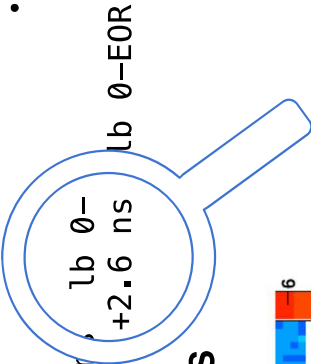
- Small and generally understood hot spots are listed in Antonio's presentation pp. 8,9.  
[https://indico.cern.ch/event/1443522/contributions/6075375/attachments/2909273/5103995/240808\\_DQLeader\\_report.pdf](https://indico.cern.ch/event/1443522/contributions/6075375/attachments/2909273/5103995/240808_DQLeader_report.pdf)

- **No new hot/cold spots.**

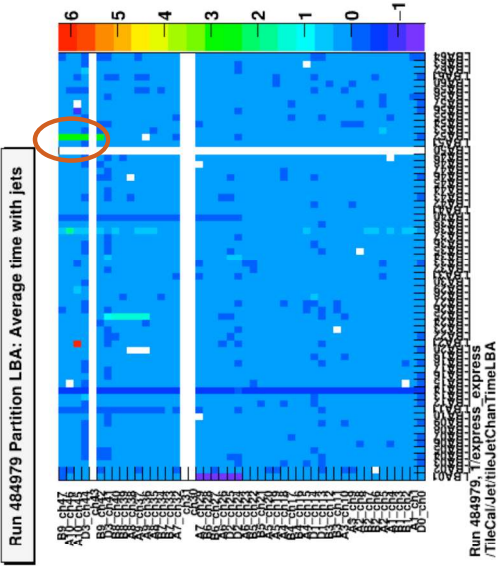
- **No timing jumps during the all checked runs. No updates to ROBOT.**

- **Laser Based tool:**

SUMMARY: LBA52 ch 42-47 +2.6 ns Lb 0-  
 ROBOT: 484979 LBA52 ch 42-47 +2.6 ns Lb 0-E0R



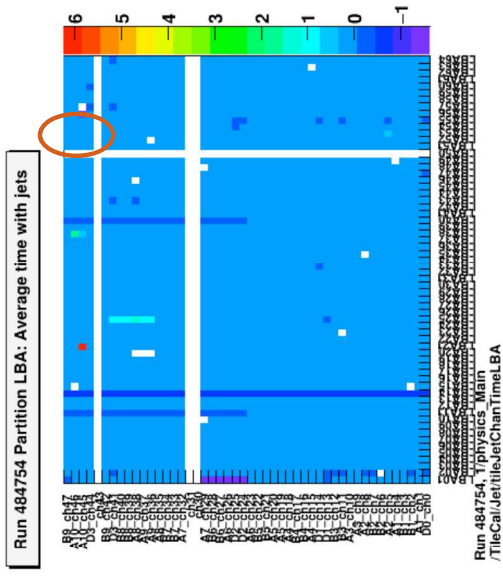
### Run 484979 ES1. EXPRESS



- **Run 484442 timing jumps updated to ROBOT.**

LBA52 ch 42-47 +2.6 ns Lb 0-E0R

### Run 484754 BLK, Physics\_Main



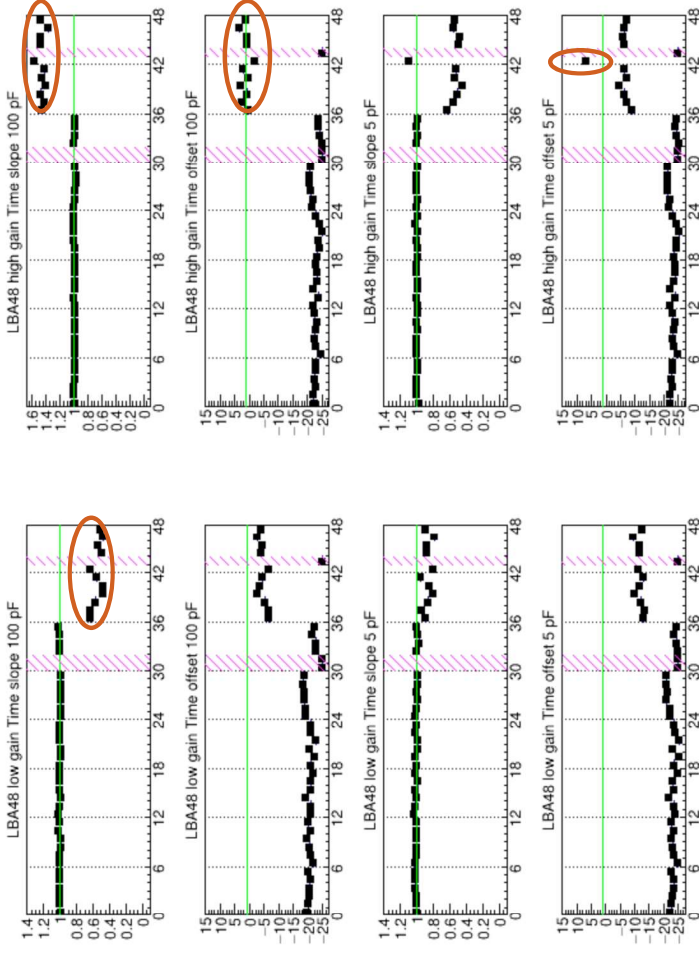


# Calibration

# CIS Run 484916

## LBA48

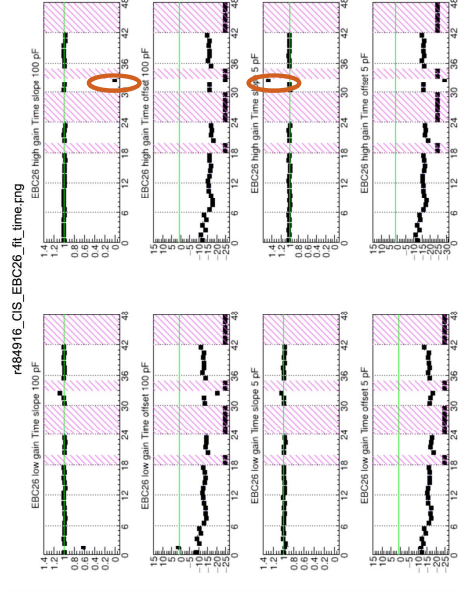
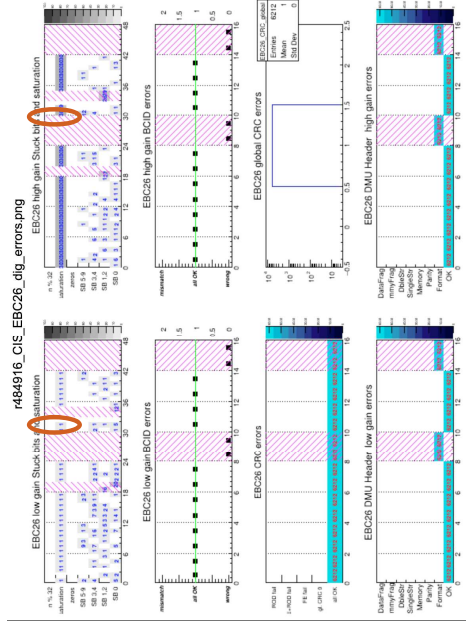
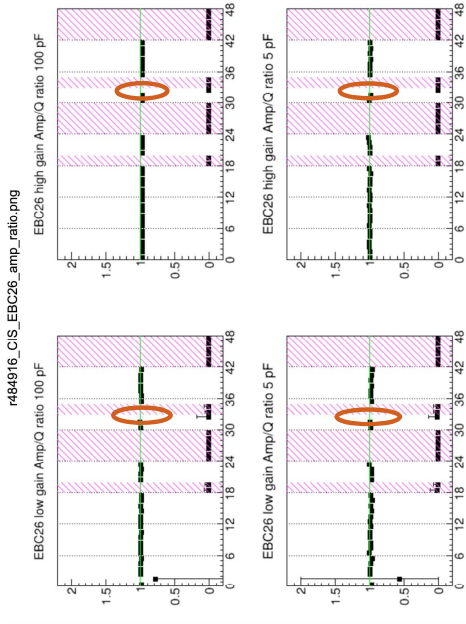
r484916\_CIS\_LBA48\_fit\_time.png



ch36-47 LG: TSlope 100pF (0.6) HG: TSlope 5pF (0.6), TSlope 100pF (1.5), TOffset 100pF (0.4).

# CIS Run 484916

## EBC26



**ch32 LG, HG: Missing Saturation, No response, AmpQ 5, 100 pF**  
**HG: TSlope 5, 100pF**

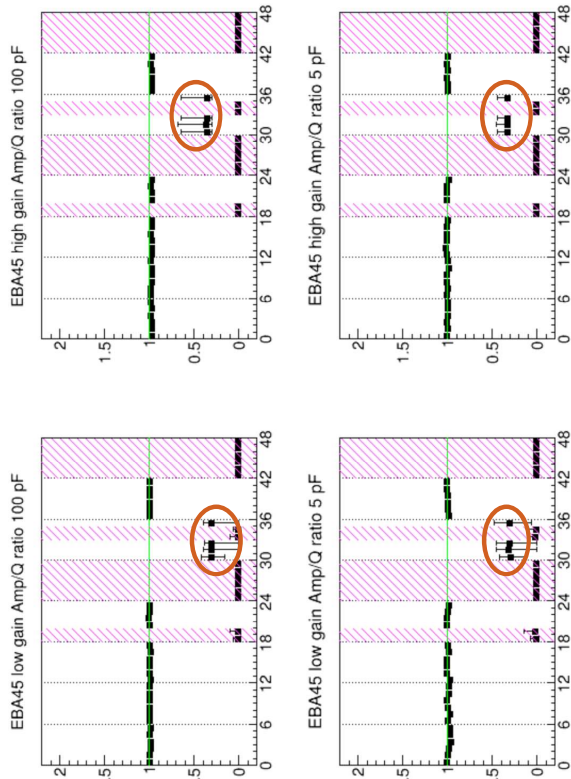
COOL DB: ch01: LG: BAD: 1000 (ADC masked (unspecified)) 1104 (Bad CIS calibration) .



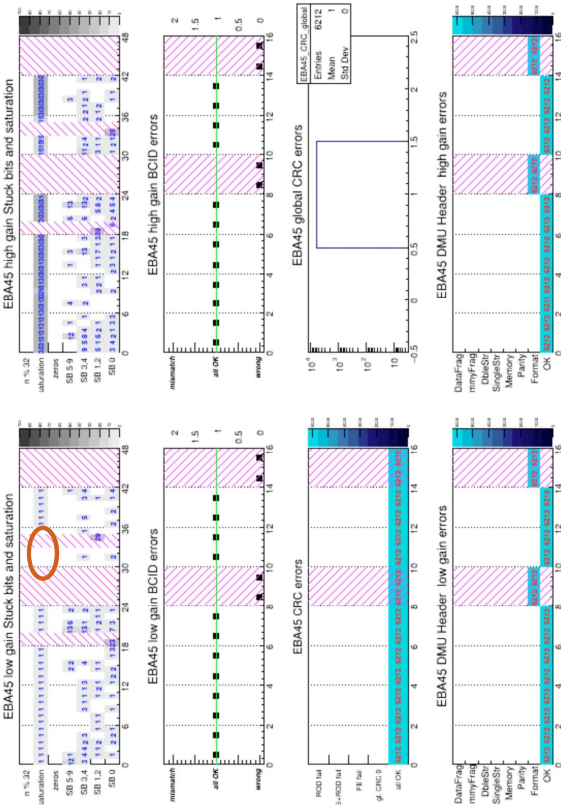
# CIS Run 484916

## EBA45

r484916\_CIS\_EBA45\_amp\_ratio.png



r484916\_CIS\_EBA45\_dig\_errors.png

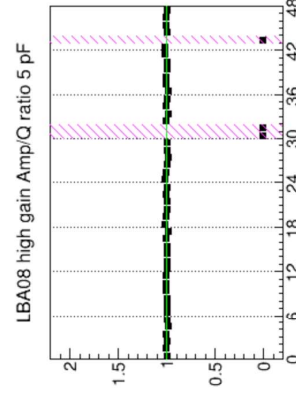
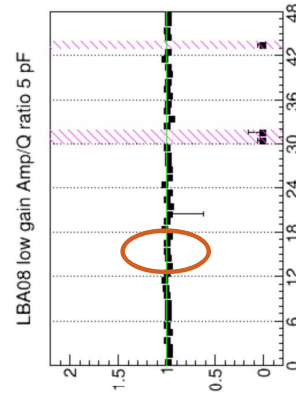
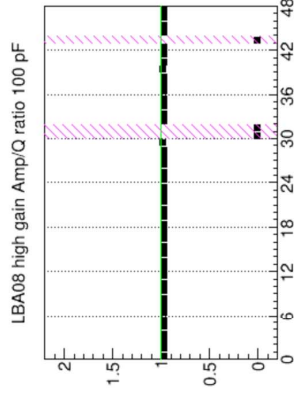
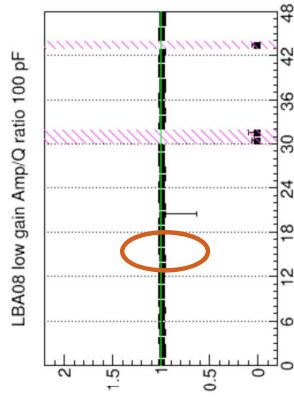


chms30-32,35 LG: Missing Saturation, LG, HG: AmpQ 5, 100pF

# CIS Run 484916

## LBA08

r484916\_CIS\_LBA08\_amp\_ratio.png

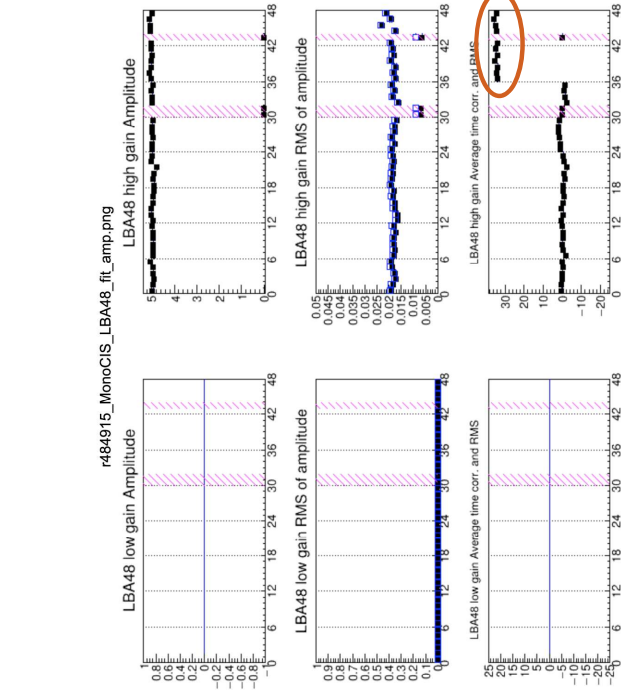
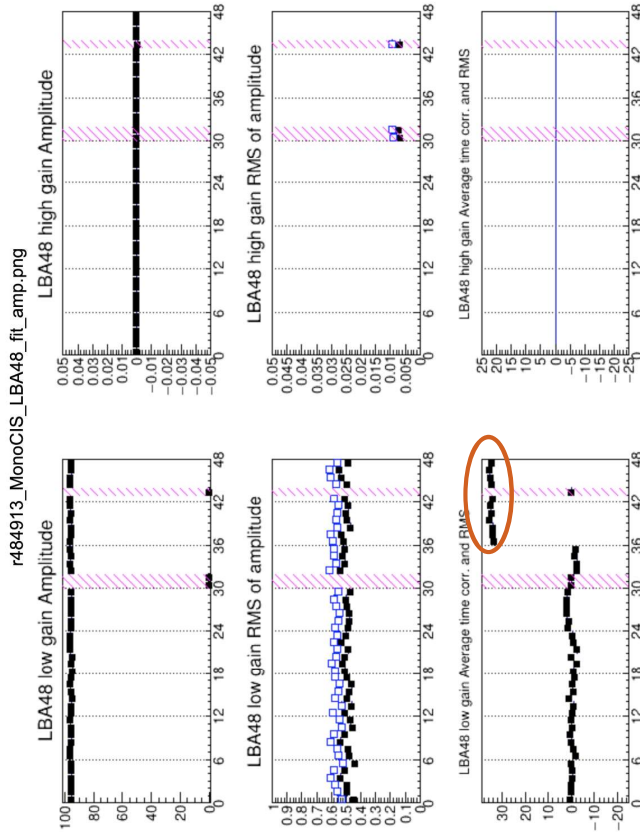


ch20 LG: AmpQ 100pF (ErrBar=0.35).

# MonoCIS LG Run 484913

# MonoCIS HG Run 484915

## LBA48

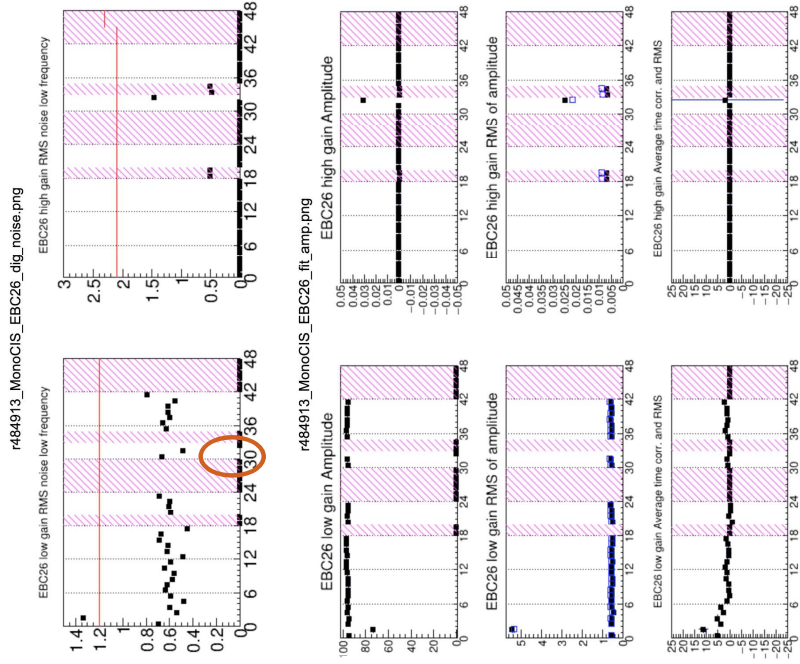


chns36-47 LG, HG: Timing (33-36)ns

# MonoCIS LG Run 484913

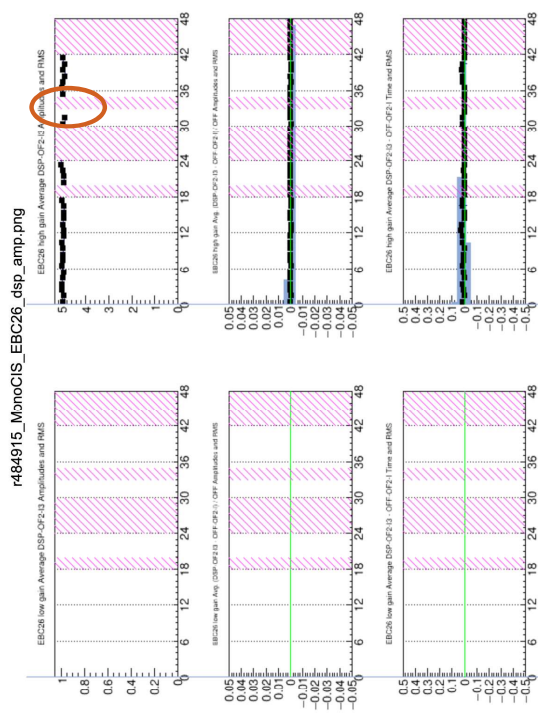
**EBC26**

# MonoCIS HG Run 484915



**ch32 LG: No response, Amp LG (0), Gaussianity (100); LG, HG: DSP Amp (0).**

**COOL DB: ch01: LG: BAD: 1000 (ADC masked (unspecified)) 1104 (Bad CIS calibration)**



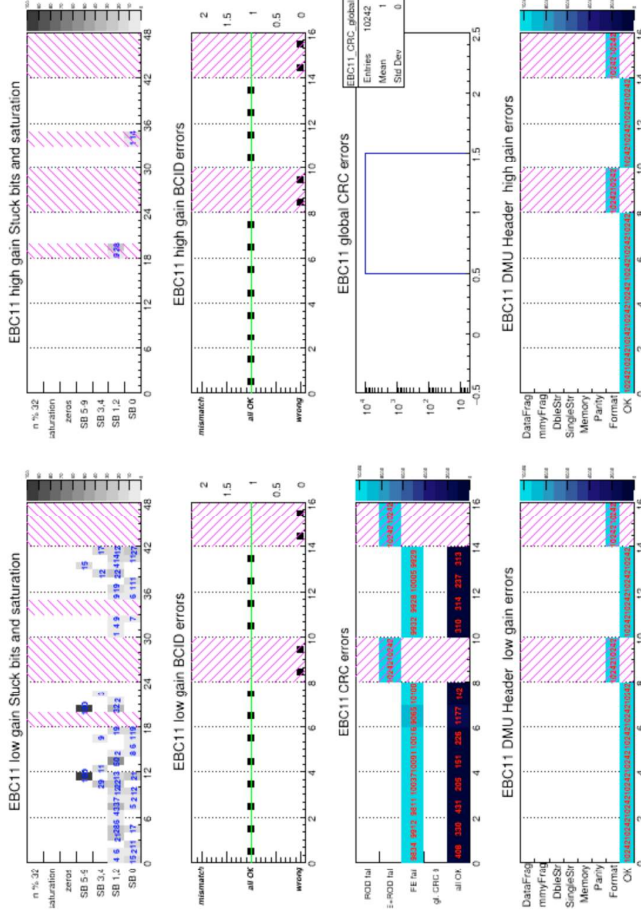


# MonocIS LG Run 484913

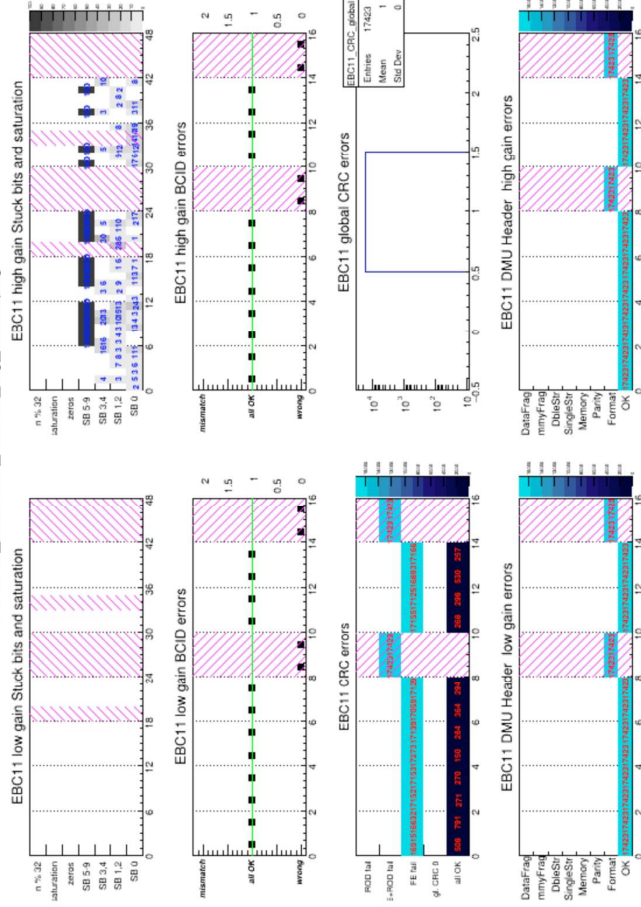
# MonocIS HG Run 484915

## EBC11

r484913\_MonoCIS\_EBC11\_dig\_errors.png



r484915\_MonoCIS\_EBC11\_dig\_errors.png

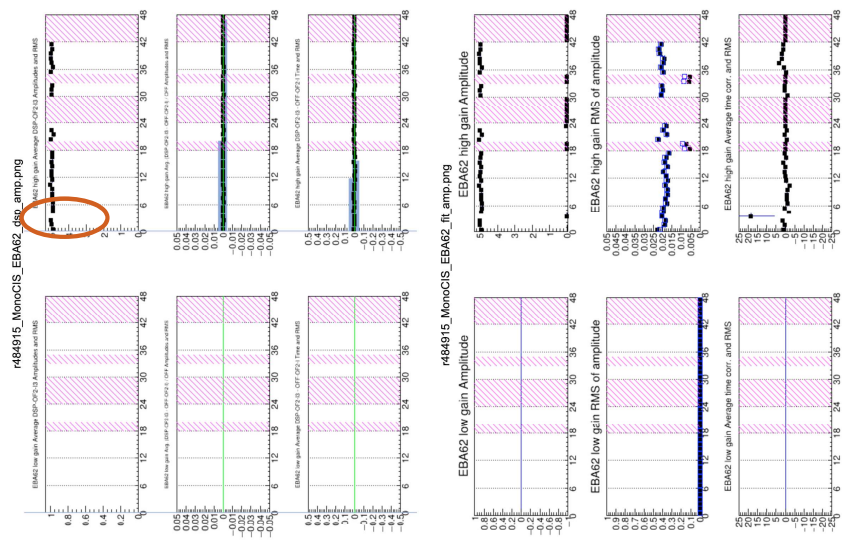
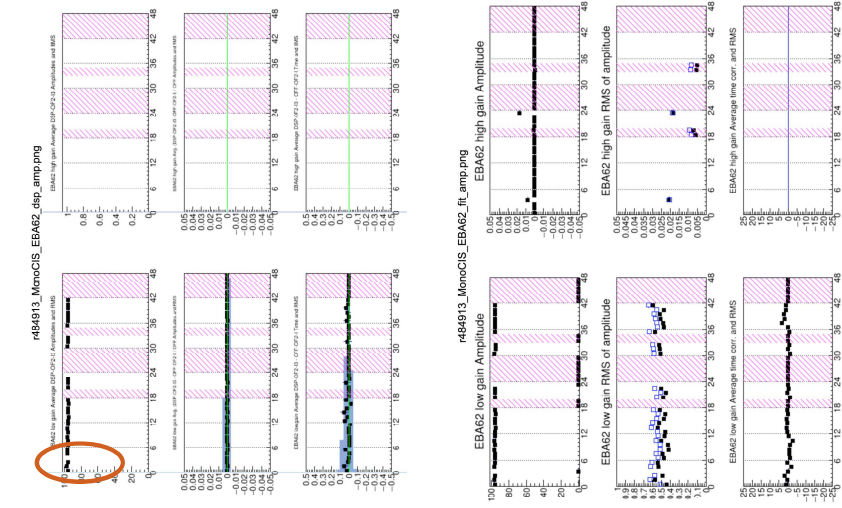


All DMUs CRC error (FE fail 96%-100%).

# MonoCIS LG Run 484913

## EBA62

# MonoCIS HG Run 484915

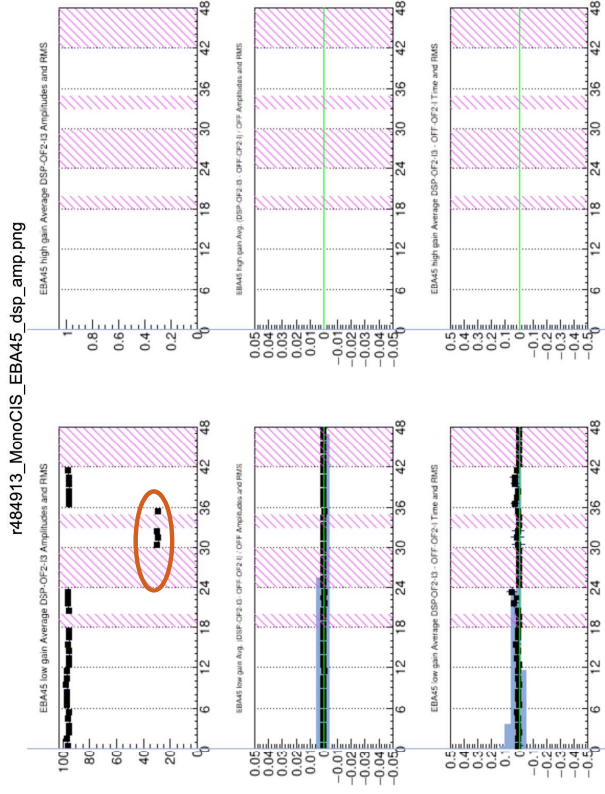


ch3 LG: No response, Amp LG (0), Gaussianity (100);  
LG,HG: DSP Amp (0); HG: Timing (18).

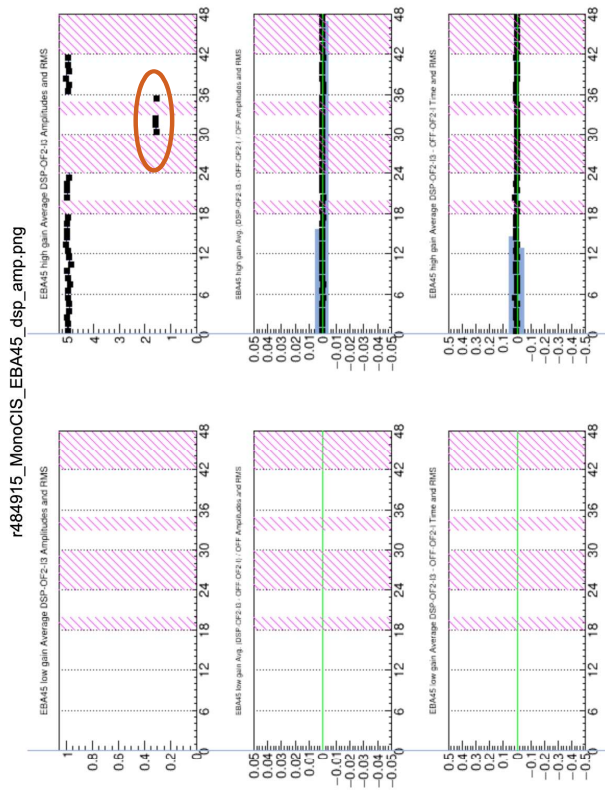
COOL DB: ch23: Both gains: BAD: 1103 (No CIS calibration) 2000 (Channel masked (unspecified)) 2102 (No cesium calibration) .

# MonoCIS LG Run 484913

## EBA45



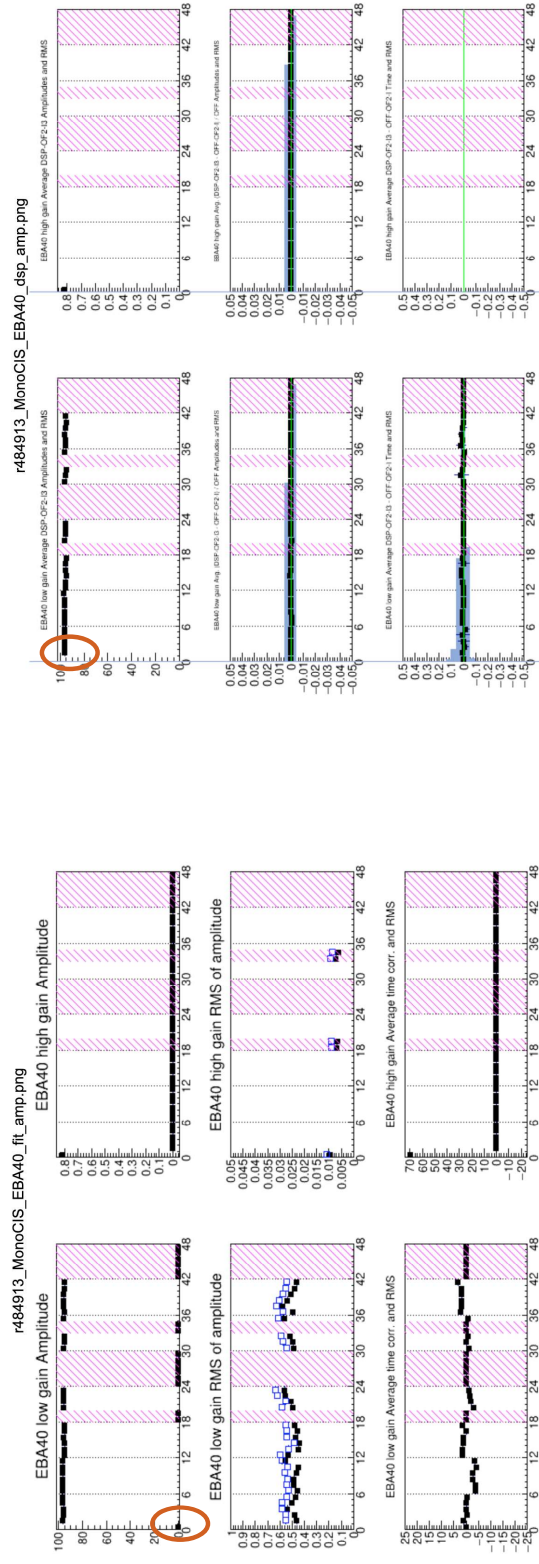
# MonoCIS HG Run 484915



chns 30, 31, 32, 35 DSP Amp LG: (29); HG: (1.6)

# MonoCIS LG Run 484913

## EBA40

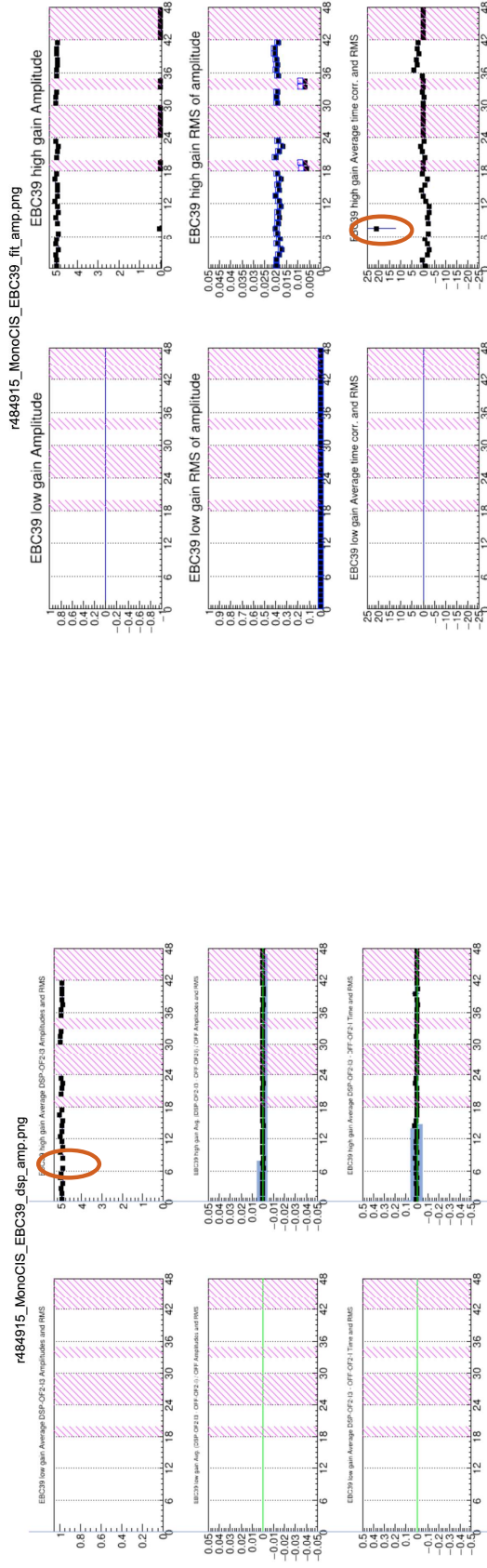


ch0 LG: No response, Amp LG (0), Gaussianity (1e 02), DSP Amp (0).

COOL DB: ch00: HG: BAD: 1000 (ADC masked (unspecified)) 1103 (No CIS calibration).

# MonoCIS HG Run 484915

## EBC39

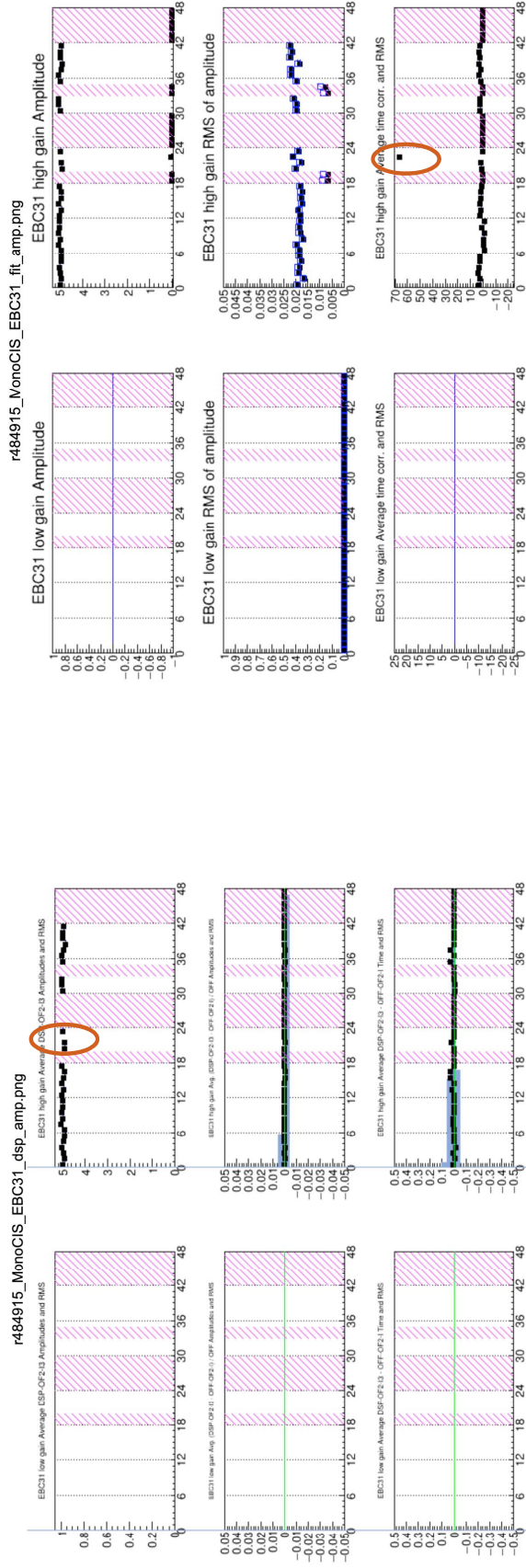


### ch7 HG: DSP Amp (0), Timing (21)

COOL DB: ch07: Both gains: Affected: 1103 (No CIS calibration) 2100 (No laser calibration) 2102 (No cesium calibration) .

# MonoCIS HG Run 484915

## EBC31



ch22 HG: DSP Amp (0), Timing (66).

COOL DB: ch22: Both gains: Affected: 1103 (No CIS calibration) 2102 (No cesium calibration) .

# Summary

- **5 Physics Runs sign-off with tolerable defects: 484780, 484799, 484909, 480953, 484979**

1. Data corruption. Everything masked on the fly. No defect added.

**Run 484799** 16 consecutive bad modules Affected LB:502

Tibor checked this tissue : 16 events with 16 or more consecutive bad modules and 2226 events with 1 consecutive bad module in LB = 502. Less than 1% of events is bad, thats why this run sign-off without the BADCOVER defect. This issue will be rechecked during the BLK sign-off.  
<https://atlasdqlog.cern.ch/elisa/display/43045?logbook=DQshift>

2. No clear hot spots that require masking.
  3. No significant problems in jet timing.
  4. Timing jumps checked. No timing jump, no updates to ROBOT.
- **Laser timing plots were checked:**

No new issues were found during the analyzed runs.

- **The Calibratin runs taken on Friday(20.09.2024) were checked:**  
<https://indico.cern.ch/event/1402209/>

Modules changed status Green to Red:

**LBA48** : chns46-47 Tslope, Offset , Timing errors

**EBC26** ch32 LG, HG: Missing Saturation, No response

**EBA62** ch3 LG, HG: Missing Saturation, No response,

**EBA45**: chns30-32,35 LG: Missing Saturation, LG, HG: AmpQ

**Thank You!**



# Back-Up