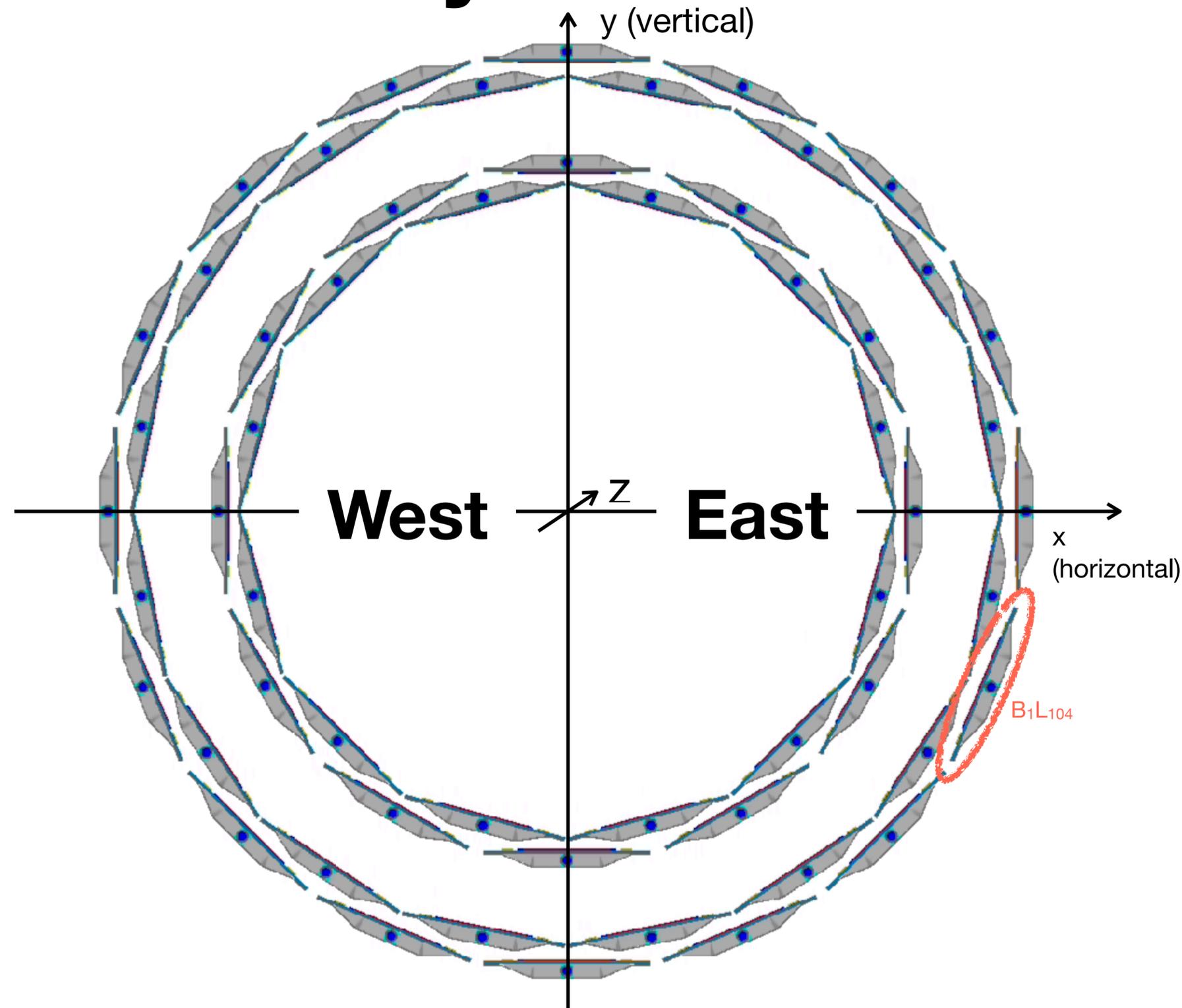


Barrel ladder test using the FELIX system

G. Nukazuka(RBRC),
R. Nouicer, R. Pisani, R. Cecato(BNL)

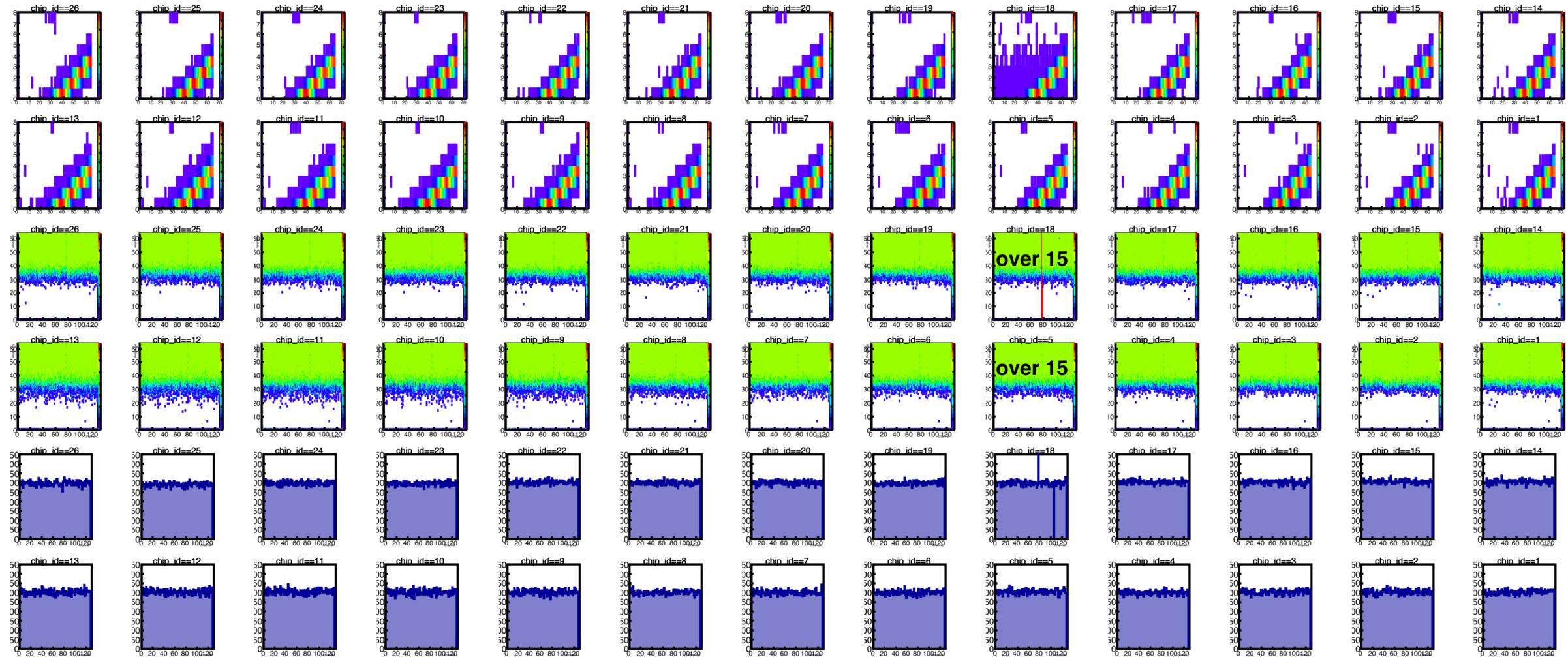
Barrel ladder tests with Felix system

- The barrel ladder tests were successfully done with the FEM/FEM-IB system.
- Tests using the Felix should be performed as well.
- Now the Felix system can handle everything by itself:
 - Slow control
 - BCO and start clock signals
 - high-speed data readout
- 2 ladders were tested:
 - B1L104 south side
 - B1L105 south side: not done yet....



Results: B1L104S, FEM/FEM-IB

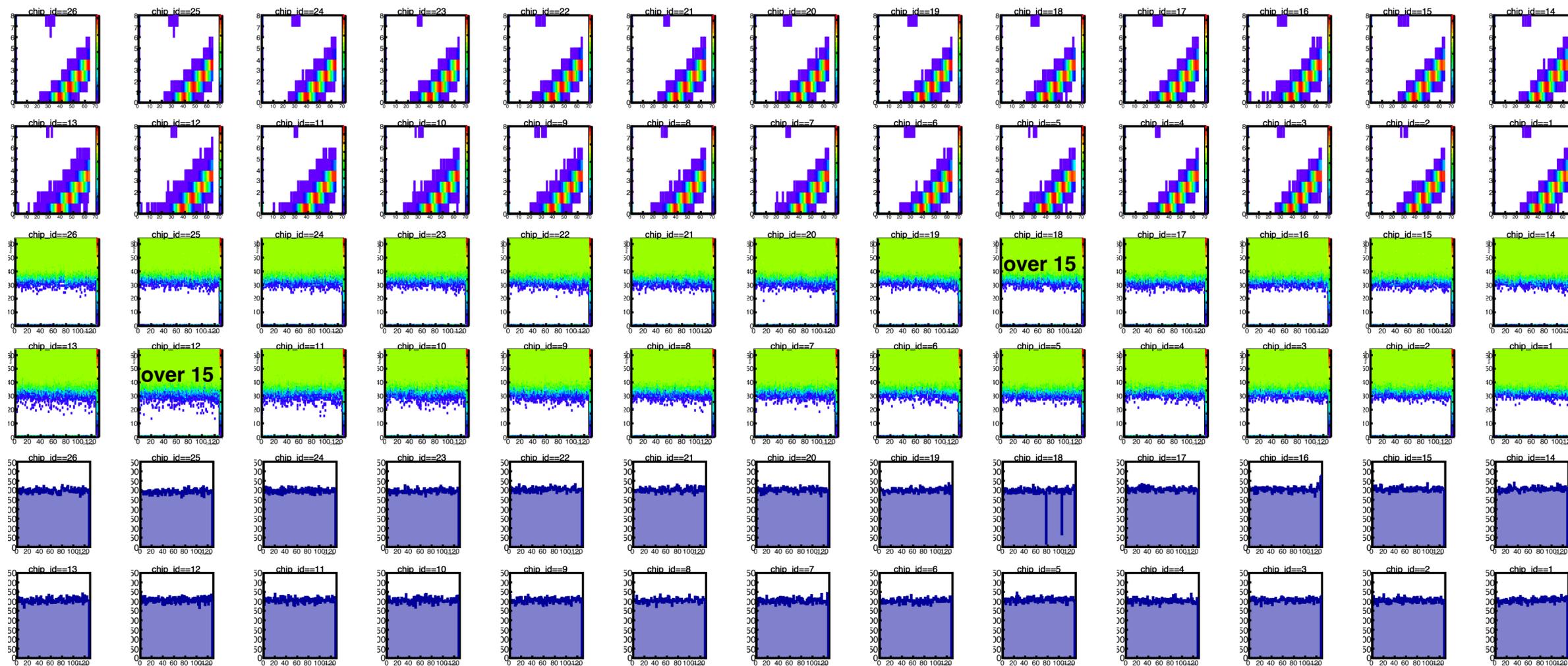
Calibration results of B1L104S with the FEM/FEM-IB system



- Data: fphx_raw_20220914-1830_0.dat
- ROC: port C3
- Bias: A = 320 nA, B = 385 nA
- chip18 ch77 : noisy
- chip18 ch105: dead

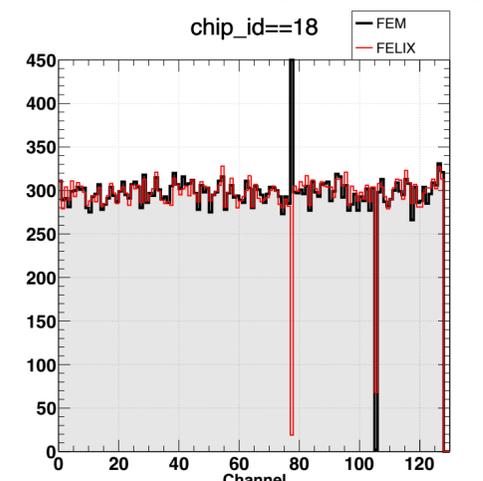
Results: B1L104S, FELIX

Calibration results of B1L104S with the FELIX system



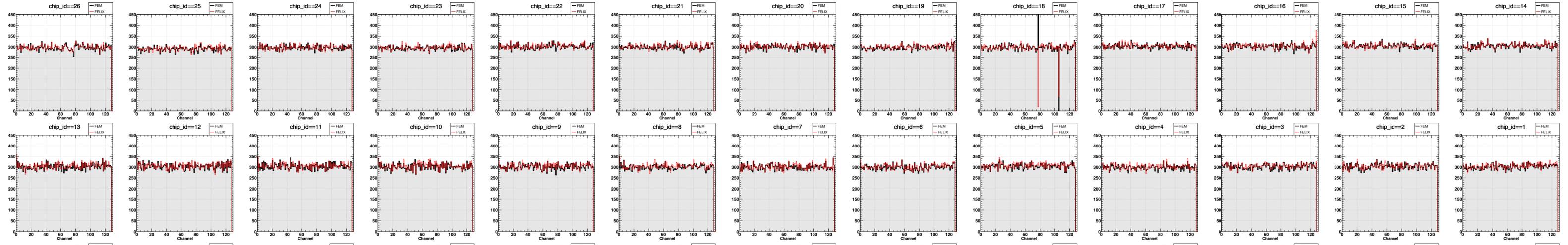
- Data: calib_packv1_220927_1700.dat
- ROC: port C3
- Bias: A = ? nA, B = ? nA

- chip18 ch77 : dead
- chip18 ch105: dead

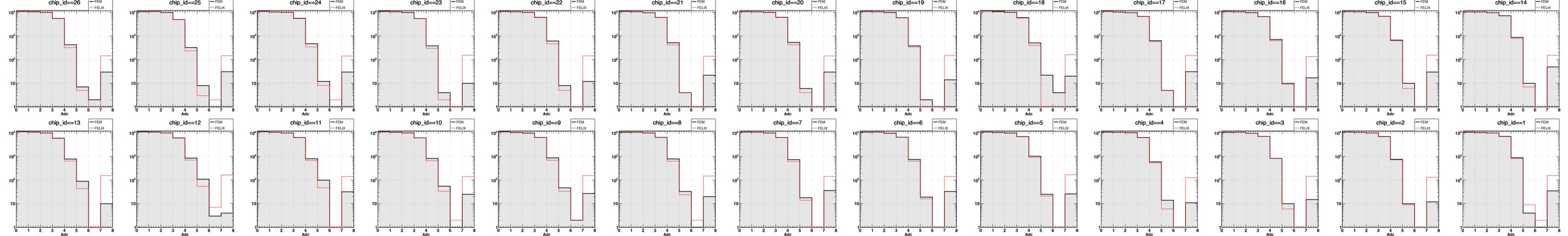


Results: Comparison

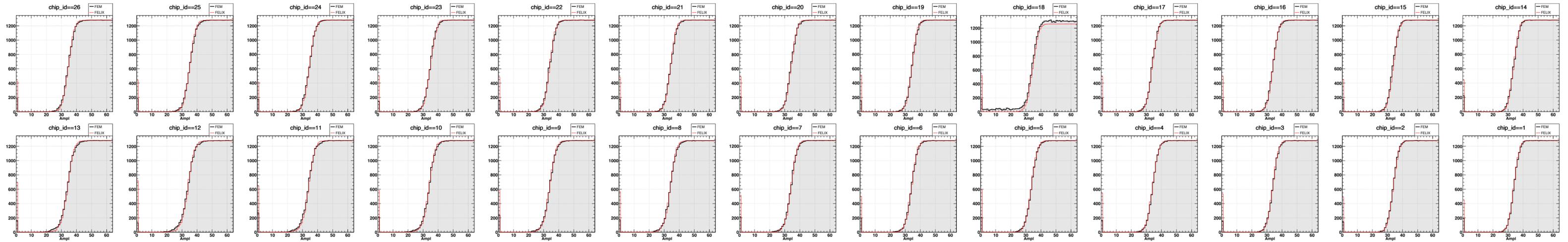
Channel dist.



ADC dist.

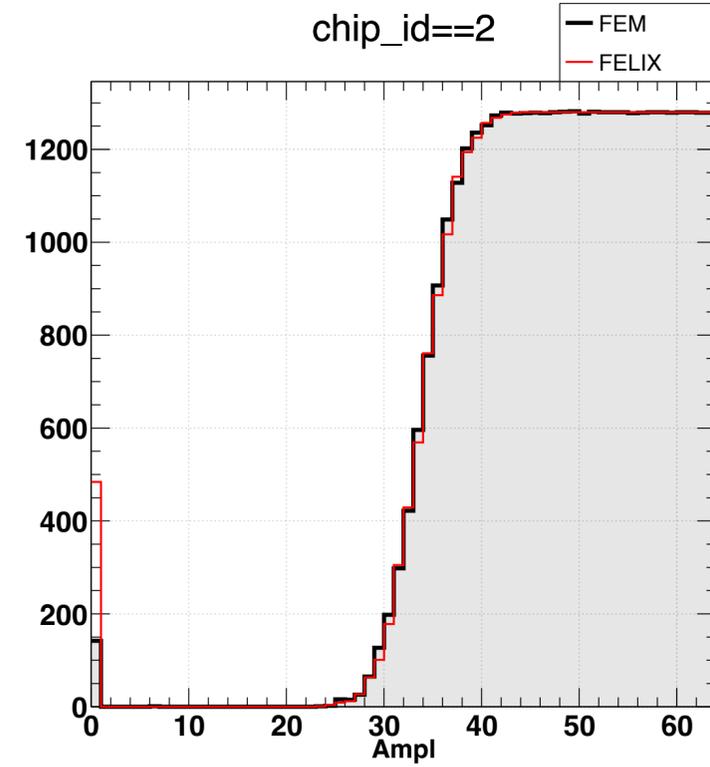
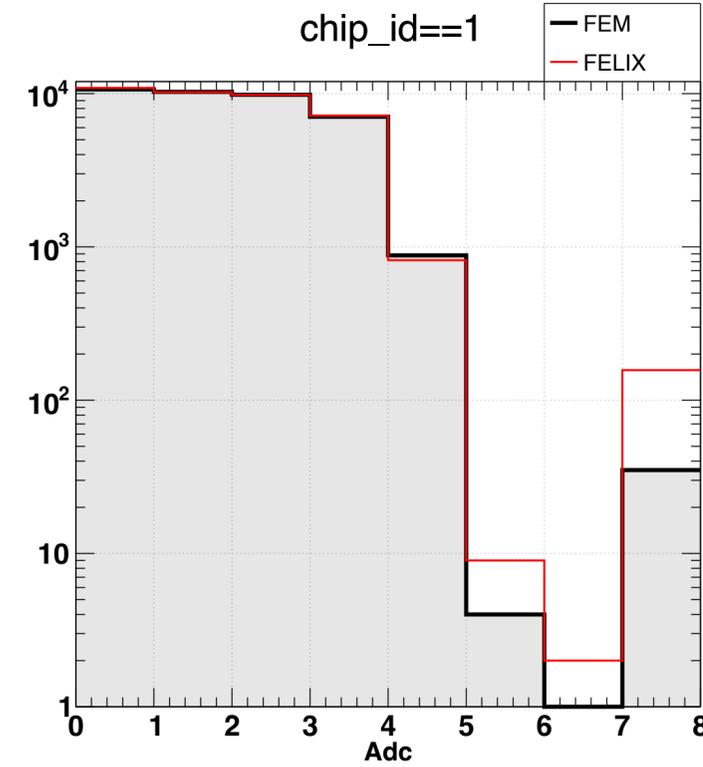
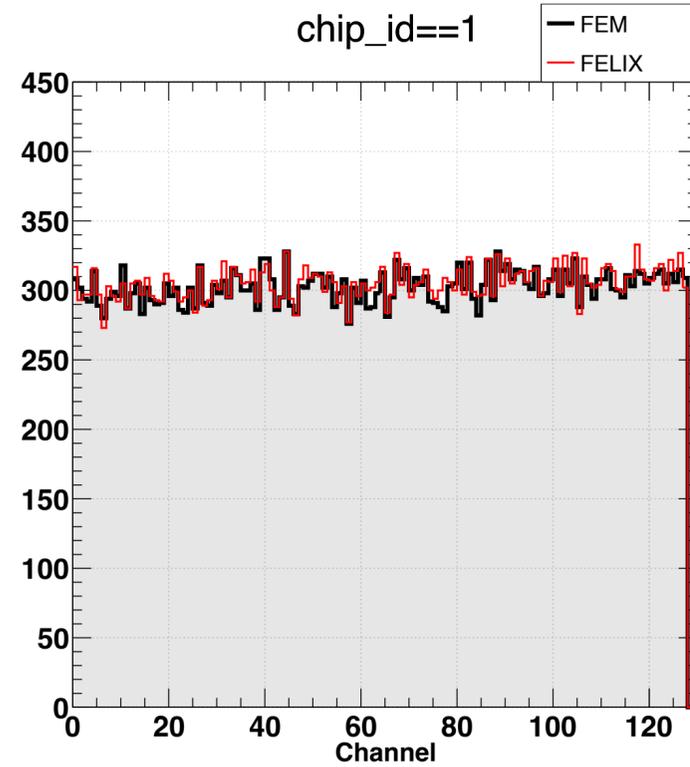
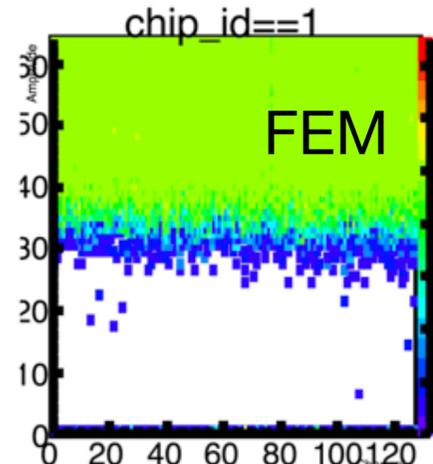
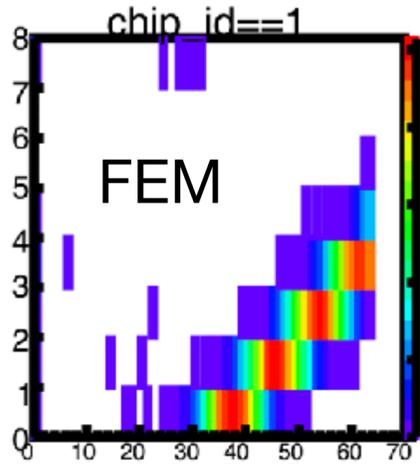


Amplitude dist.



Results: Comparison, focusing on Chip1

-FEM
-FELIX



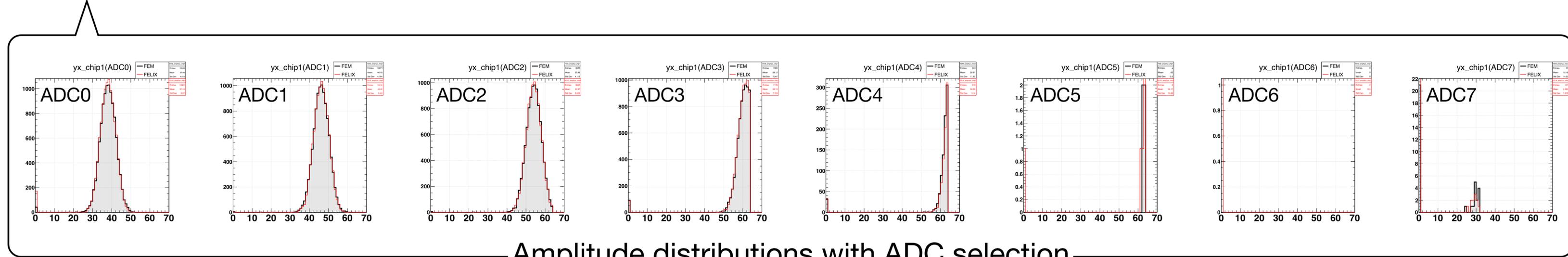
Amplitude vs ADC

Channel vs Amplitude

Channel dist.

ADC dist.

Amplitude dist.



Amplitude distributions with ADC selection

The results from the FELIX system are consistent with FEM's.

Preparation of the 2nd Felix server

2nd Felix Server

Basic configuration was done



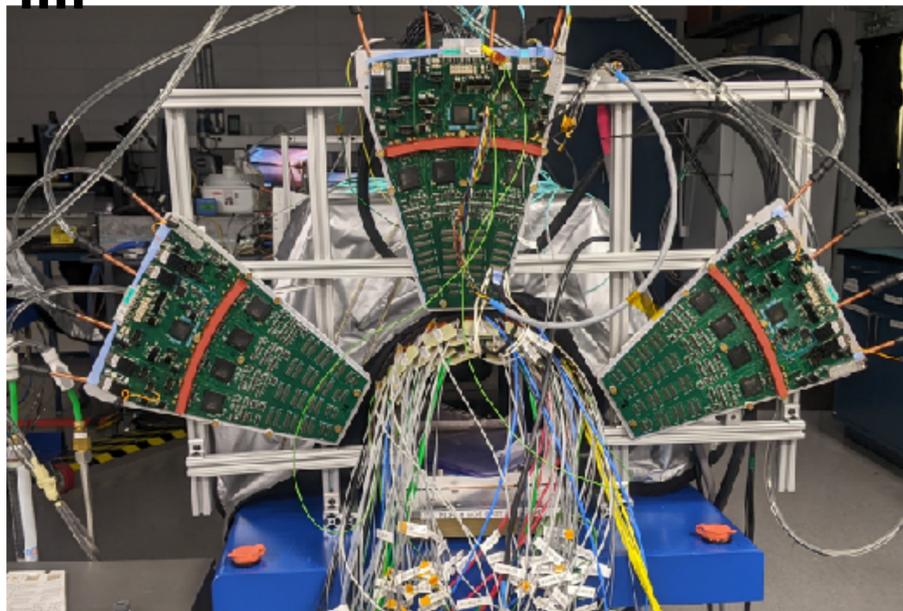
- FELIX DAQ: **READY**
- GUI: NOT READY

Output from the FELIX
Python dictionary

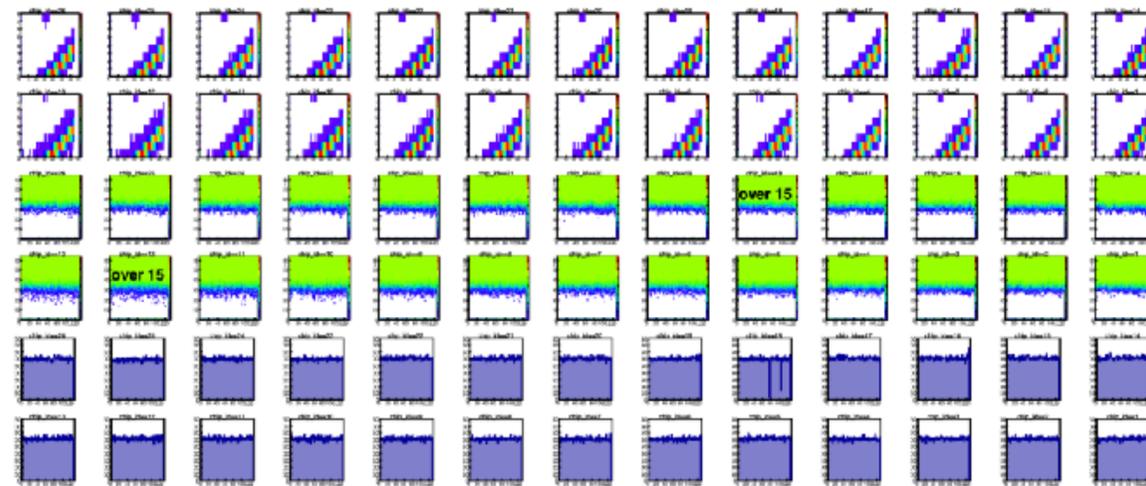
File conversion script
by Python
READY

ROOT file
TTree

Slow Control, BCO, Start
and DATA fibers



ROOT macro for plots
READY



2nd Felix server is almost ready. GUI is needed.